CITIZEN ADVISORY COMMITTEE AGENDA

Members: Lisa Baker (Winters), Olin Woods (Yolo County), Stephen Streeter (Davis), Patrick Guild (West Sacramento), Mollie D'Agostino (Woodland), Andrew Furillo (At Large), Frank Reyes (At Large), *Vacant (At Large)*

This Citizens Advisory Committee Meeting will be held in person at the location below. Members of the public who wish to participate remotely may use the zoom link or phone number below.

IN-PERSON INFORMATION

Meeting Date: Monday Jan 06, 2025
Meeting Time: 6:00 PM
Meeting Place: Yolo Transportation District
350 Industrial Way
Woodland CA

ZOOM INFORMATION

Link: https://us06web.zoom.us/j/88312704428
Phone Number: 669 444 9171
Webinar ID: 883 1270 4428

All participants will be entered into the webinar as attendees.

YoloTD offers teleconference participation in the meeting via Zoom as a courtesy to the public. If no voting members of the YoloTD CAC are attending the meeting via Zoom, and a technical error or outage occurs with the Zoom feed or Zoom is otherwise disrupted for any reason, the YoloTD CAC reserves the right to continue the meeting without remote access.

Further instructions on how to electronically participate and submit your public comments can be found in the Public Participation Instructions note at the end of this agenda.

To submit a comment in writing, please email to public-comment@yctd.org and write "For CAC Public Comment" in the subject line. In the body of the email, include the item number and/or title of the item (if applicable) with your comments. All comments received by 4:00 PM on Monday, January 6, 2025 will be provided to the YoloTD Citizens Advisory Committee in advance and comments submitted during the meeting shall made part of the record of the meeting, but will not be read aloud or otherwise distributed during the meeting.

Estimated Time		Agenda Item	Informational	Action Item
6:00 PM	1.	Call to Order, Roll Call	**X**	
6:05 PM	2.	Comments from the public regarding matters NOT on the Agenda, but within the purview of YoloTD (Comments will be limited to two (2) minutes per person— please identify yourself and in which community you live before providing your comments)	**X**	

CONSENT CALENDAR

6:10	3.	Approval of Minutes of CAC's Regular Meeting on October 29, 2024 ***(Bernstein,pp 6-9)***		**X**

REGULAR CALENDAR

6:15 PM	4.	Short-Range Transit Plan: Receive Informational Presentation on Transit Service Planning (***Torney,pp 10-28***)	**X**	
6:45 PM	5.	Woodland Transit Center Relocation Update***(Bernstein/Abbanat,pp29-130)***	**X**	
7:50 PM	6.	Administrative Reports ***(Bernstein)*** Discussion regarding subjects not specifically listed is limited to clarifying questions. A. CAC Members' Reports B. Executive Director's Report C. Long-Range Calendar	**X**	
8:00	7.	Adjournment	**X**	

I declare under penalty of perjury that the foregoing agenda was posted on or before Friday, January 3, 2025 at the Yolo Transportation District Office (350 Industrial Way, Woodland, California). Additionally, copies were FAXED or transmitted electronically to the Woodland, Davis, West Sacramento, and Winters City Halls, as well as to the Clerk of the Board for the County of Yolo.

J.Marte

Janeene Marte, Clerk of the Board

Public Participation Instructions

Members of the public shall be provided with an opportunity to directly address the committee on items of interest to the public that are within the subject matter jurisdiction of the CAC. Depending on the length of the agenda and number of speakers, the Chair reserves the right to limit the time each member of the public is allowed to speak to three minutes or less.

ON ZOOM:
If you are joining the meeting via Zoom and wish to make a comment on an item, click the "raise hand" button. If you are joining the webinar by phone only, press *9 to raise your hand. Please wait for the host to announce the comment period has opened and indicate that you wish to make a comment at that time. The Clerk of the Board will notify the Chair, who will call you by name or phone number when it is your turn to comment.

IN ADVANCE OF THE MEETING:
To submit a comment in writing, please email public-comment@yctd.org. In the body of the email, include the agenda item number and title with your comments. Comments submitted via email during the meeting shall be made part of the record of the meeting but will not be read aloud or otherwise distributed during the meeting. To submit a comment by phone in advance of the meeting, please call 530-402-2819 and leave a voicemail. Please note the agenda item number and title with your comments. All comments received by 4:00 PM on Monday, January 6, 2025, will be provided to the CAC in advance.

Americans With Disabilities Act Notice

If requested, this agenda can be made available in appropriate alternative formats to persons with a disability, as required by Section 202 of the Americans with Disabilities Act of 1990 and the Federal Rules and Regulations adopted in implementation thereof. Persons seeking an alternative format should contact Yolo Transportation District for further information. In addition, a person with a disability who requires a modification or accommodation, including auxiliary aids or services, to participate in a public meeting should telephone or otherwise contact Yolo Transportation District as soon as possible and preferably at least 24 hours prior to the meeting. We may be reached on (530) 402-2819, via email at public-comment@yctd.org or at the following address: 350 Industrial Way, Woodland, CA 95776.

VISION, VALUES AND PRIORITIES

Yolo Transportation District

Vision Statement

The vision statement tells us what we intend to become or achieve.

Provide seamless, sustainable mobility solutions to help Yolo communities thrive.

Core Values

A core value describes our individual and organizational behaviors and helps us to live out our vision.

- We are transparent, inclusive and accountable to the public, stakeholders and partner agencies
- We are committed to addressing inequities and improving outcomes for our most vulnerable communities
- We prioritize environmental sustainability and climate resilience
- We value efficiency, innovation and responsible stewardship of public funds

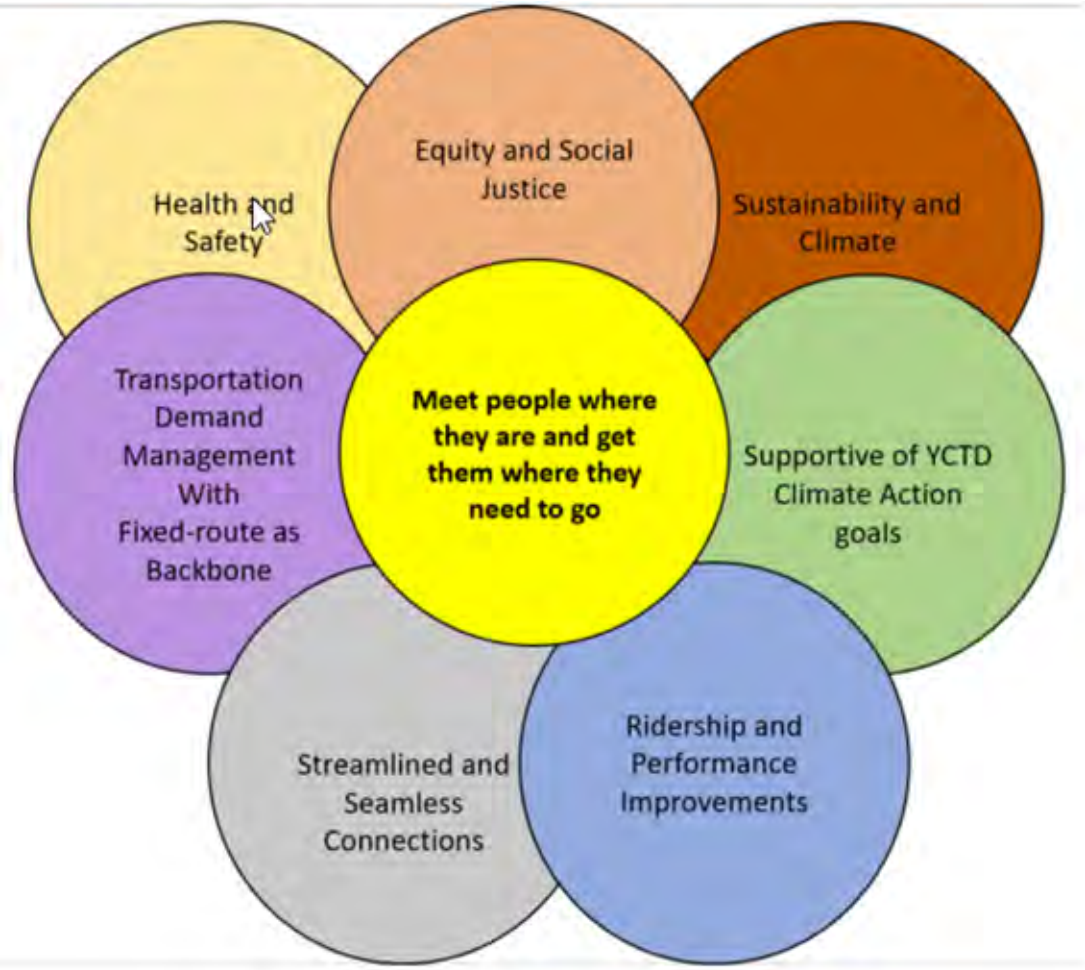
District-Wide Priorities

Priorities align our vision and values with our implementation strategies.

1. Provide transit service that is faster, more reliable and convenient.
2. Partner with member jurisdictions, community-based organizations and local, regional, state and federal agencies to identify and address the current and evolving mobility needs of Yolo County.
3. Coordinate, plan and fundraise to deliver a full suite of transportation projects and programs.

Updated November 2022

YoloTD Citizens Advisory Committee Framework



Citizens Advisory Committee
YOLO TRANSPORTATION DISTRICT
350 Industrial Way, Woodland, CA 95776---- (530) 661-0816

Topic: Approve Meeting Minutes for Regular Meeting of October 29, 2024	**Agenda Item#:** **Agenda Type:**	**3** **Action**
		Attachments: **Yes** **No**
Prepared By: A. Bernstein		**Meeting Date:** January 6, 2025

RECOMMENDATION:

Approve Minutes for the Regular Meeting of October 29, 2024

BACKGROUND:

The Yolo Transportation District (YoloTD) Citizens Advisory Committee holds regular meetings in compliance with the Brown Act and public records laws. Those meetings are recorded in minutes, which are to be retained, in perpetuity, in the YoloTD archives.

The purpose of this item is to approve minutes of the Citizens Advisory Committe meeting for the historical preservation and posterity for future generations to understand the valuable work considered and accomplished by YoloTD.

BUDGET IMPACTS:

There are no anticipated financial impacts.

Attachments:
1. Minutes

CITIZENS ADVISORY COMMITTEE MEETING MINUTES

October 29, 2024, at 6:00 p.m.
Yolo Transportation District Board Room
350 Industrial Way, Woodland, CA

1. Roll Call - Determination of Quorum

Chair Baker called the meeting to order at 6:00 p.m.

Committee Members Present:

Lisa Baker, City of Winters
Olin Woods, Yolo County
Stephen Streeter, City of Davis
Andrew Furillo, At Large
Mollie D'Agostino, City of Woodland
Frank Reyes, At Large

Staff Present:

Autumn Bernstein, Executive Director
Daisy Romero, Director of Transit Operations

2. General Public Comments

No public comment.

3. Consent Calendar

3a. Approve CAC Minutes for Regular Meeting of July 22, 2024
3b. Approve 2025 Citizens Advisory Committee Meeting Calendar

Committee member Streeter motioned to approve item 3b, Approve 2025 Citizens Advisory Committee Meeting Calendar, to pull item 3a for discussion. Committee Member Reyes seconded this motion. Committee members Streeter, Furillo, Baker, Woods, D'Agostino, and Reyes voted aye, and Committee member Guild was absent.

Chair Woods asked the committee to review consent agenda item 3a. Committee member Streeter noted he was absent from the July 2024 meeting and should be listed as absent.

Chair Baker asked for a motion to approve item 3a with the correction. Committee member Streeter made the motion and committer member Furillo seconded the motion.

Item 4a passed unanimously.

Executive Director Bernstein discussed the new schedule for Citizens Advisory Committee meetings and its potential impact on feedback incorporation.

Regular Calendar

4. Review and Recommend Proposed Service Changes and Restorations for Davis Express Routes 43, 43R, 230 and 44

Daisy Romero, Director of Transit Operations, shared background information on the express routes and discussed the current operational status of the 43R, 230, and 44 routes. She explained the service changes that have occurred due to the impact of COVID-19, driver shortages, and state mandates.

Daisy Romero, Director of Transit Operations detailed the travel survey conducted to gather insights on Davis commuters. The survey findings reveal commuting patterns and preferred departure times. Proposed service changes include adding trips for the 43 and 230 routes. The 44 route is proposed to be restored, with specific trip details provided.

Committee Member Woods inquired about the low ridership on the 230 route in January.

Daisy Romero, Director of Transit Operations, discussed potential reasons for the low ridership and the need for updated data.

Committee Member Reyes discussed the potential for adding quick trips and revenue service between Woodland and Davis.

Committee Member Furillo suggested consolidating stops and straightening routes for better efficiency.

Daisy Romero, Director of Transit Operations, explained the decision to keep downtown routing consistent with other express routes.

Executive Director Bernstein mentioned ongoing conversations with Sacramento Regional Transit and Capital Corridor for improved service.

No public comment.

5. Provide Feedback on Proposal for Special Budget Workshops

Executive Director Bernstein introduced the proposal for special budget workshops to provide detailed information on funding sources, cost allocation, and future outlook. The first workshop will focus on state and federal funding sources, with input from experts. The second workshop will cover local funding sources and cost allocation, including the impact of COVID-19 on the budget. The third workshop will explore options for growing revenues or reducing costs.

Executive Director Bernstein outlined the goals of the budget workshops, including exploring funding sources, reducing costs, and balancing the budget, and noting that the next step is to present the proposal to the board at the November meeting.

Chair Baker suggested that the first workshop be a kickoff event to facilitate a joint meeting with the board.

Committee Member D'Agostino emphasized the importance of including discussions on state SACCOG unmet transit needs assessment in the workshops.

Executive Director Bernstein clarified that these topics are part of the TDA funding process and are included in the workshops.

Committee Member D'Agostino inquired about the timeline for the unmet transit needs decision process and suggested coordinating meetings to affect decision-making.

Executive Director Bernstein explained the timeline, including public meetings and the state hub board review.

Committee Member Furillo expressed excitement about the workshops and hopes they will educate board members on the value of transit and highlighted the need to focus on increasing revenue rather than reducing costs when facing financial challenges.

Chair Baker supported making the process more transparent and suggested promoting it on the website.

Executive Director Bernstein provided additional context on the evolution of the budget workshops and the importance of understanding service levels and funding.

No public comment.

6. Administrative Reports

A. CAC Members' Verbal Reports

Chair Baker introduced new committee member Reyes, who provided a brief background on his experience and involvement in public health.

B. Executive Director's Verbal Report

Executive Director Bernstein welcomed the new clerk of the board and the new senior planner. She outlined the upcoming projects, which include updating the short-range transit plan, expanding the Beeline service, and relocating the Woodland Transit Center.

7. Adjournment

Seeing no further business, Chair Baker adjourned the meeting at 7:33 p.m.

Respectfully Submitted,

Denise Silva

_____

Denise Silva, Board Clerk

Citizens Advisory Committee

YOLO TRANSPORTATION DISTRICT

350 Industrial Way, Woodland, CA 95776---- (530) 661-0816

Topic: Short-Range Transit Plan: Receive Informational Presentation on Transit Service Planning	**Agenda Item#:**	**4**
	Agenda Type:	**Informational**
		Attachments: (Yes) No
Prepared By: L.Torney		**Meeting Date:** January 6, 2025

RECOMMENDATION:

Receive a presentation on the basics of transit service planning (aka Transit 101).

BACKGROUND:

YoloTD is currently working with Transportation Management and Design, Inc. (TMD) on the Short-Range Transit Plan (SRTP) for 2024-2031. This plan will outline how YoloTD will operate and serve the community over the next few years. An overview of transit service planning basics will ensure that each member of the Citizens Advisory Committee (CAC) has a foundational understanding to best position the Board for upcoming policy decisions needed for the SRTP and other guiding principles for our agency.

Topics to be covered in the presentation include understanding the balance between service coverage vs. frequency, the role cities play in successful transit service, ways to most effectively design transit routes based on the agency's stated goals, and ADA requirements for bus stops.

YoloTD has also purchased copies of the book, *Human Transit: How clearer thinking about public transit can enrich our communities and our lives* by Jarrett Walker for each CAC member. The book takes a deeper dive into the concepts presented in the Transit 101 presentation by YoloTD staff. CAC members can use this book as a reference on transit service planning when providing direction on future YoloTD and Yolobus-specific endeavors.

BUDGET IMPACT:

None.

ATTACHMENTS:

1. Slide Deck

Transit 101

Yolo Transportation District

YoloTD's Transit Service Network Structure

Local
6 routes

- $2 fare
- Hourly

Intercity
6 routes

- $2.25 or $2.50 fare
- 30 minutes or hourly

Express
4 routes

- $3.25 fare
- Hourly

Two Competing Goals of Public Transit Service

Ridership Goal

Success: Maximize ridership, minimize subsidy per rider

Strategy: Allocate frequent service to areas with transit supportive characteristics

Outcome: Fewer routes, shorter waits, longer walks to service

Coverage Goal

Success: Maximize access to transit

Strategy: Allocate service widely with lower frequency of service

Outcome: More routes, longer waits, shorter walks to service

Both goals are good. Transit operators must balance spending between the two.

Ridership-Coverage Balance

High-Ridership Transit Goal

- ✓ FREQUENT
- ✓ ALL-DAY

+

- ✓ DENSE
- ✓ WALKABLE
- ✓ LINEAR
- ✓ CLOSE

Coverage Transit Goal

SERVICE FOR NON-RIDERSHIP PURPOSES

- ✓ Geographic coverage
- ✓ Equity
- ✓ Critical community destinations

YoloTD Can’t Do This Alone

Cities largely control transit outcomes:

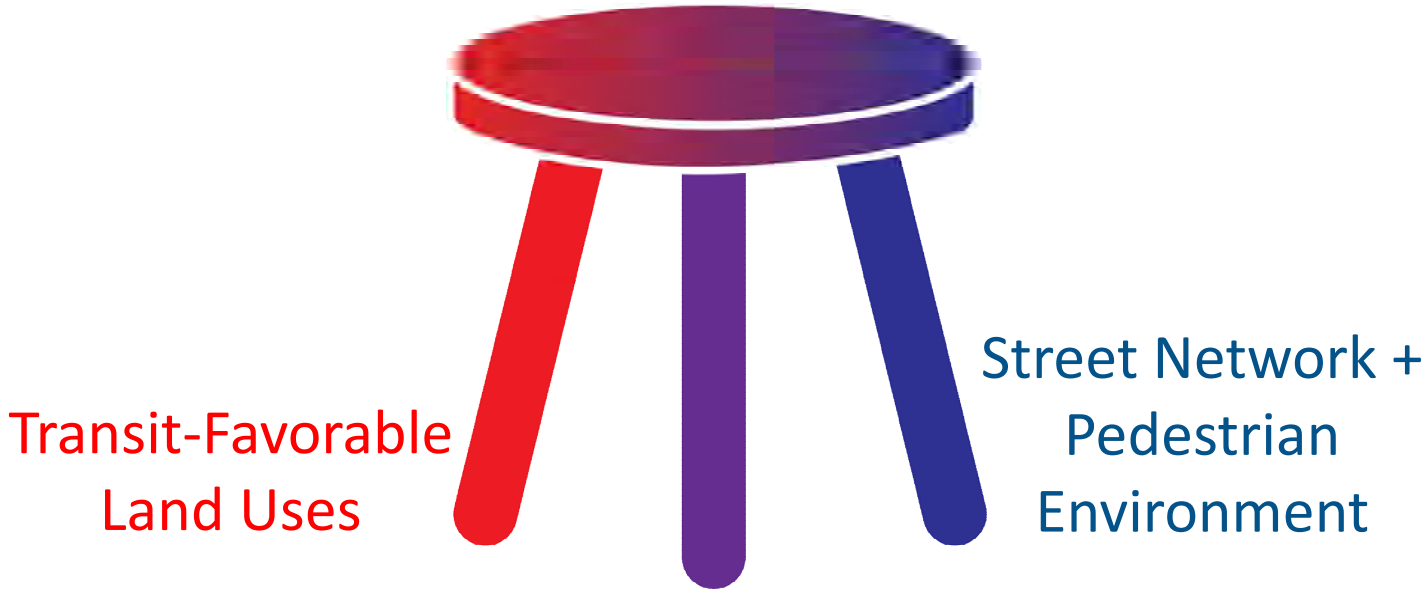
- **Cities control factors that determine ridership**

  Density, linearity, walkability, proximity, and land use mix

- **Cities control quantity and quality of transit**

  Street design and priority policies determine transit travel speeds

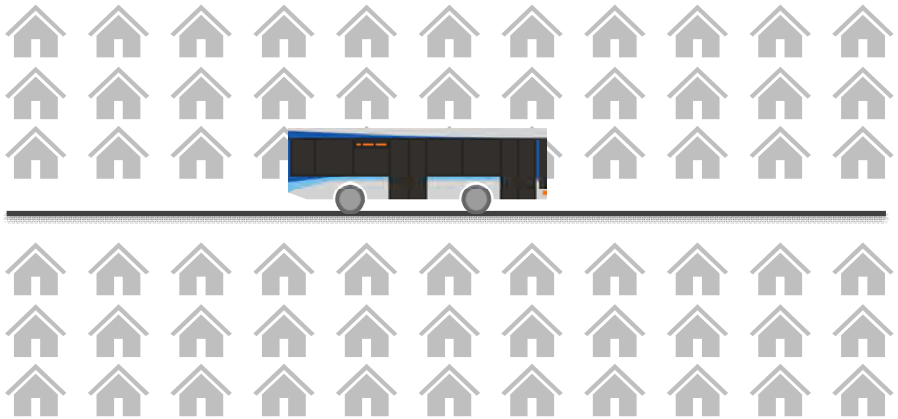
- Faster transit requires fewer vehicles per route, freeing up vehicles for new routes, more frequency, or longer hours of service



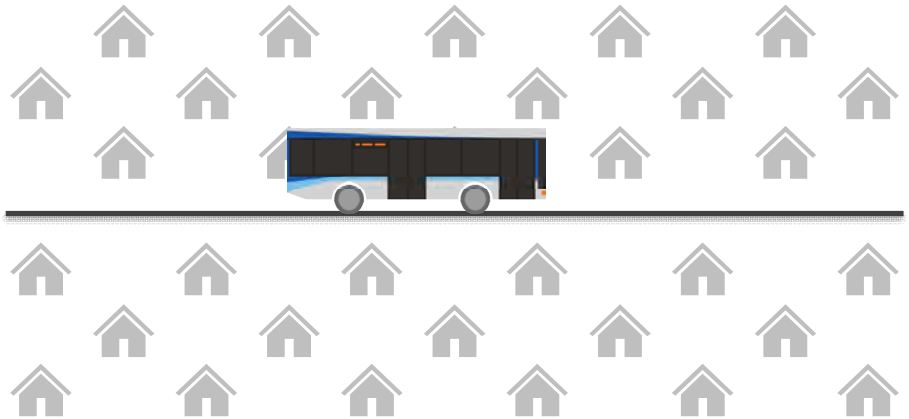
If Ridership is the Goal: The Ridership Recipe

Density: How many people near transit?

Higher Ridership



Lower Ridership



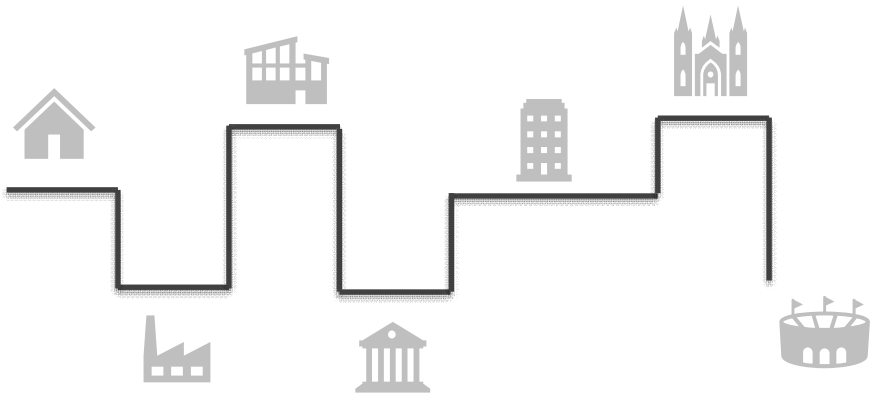
If Ridership is the Goal: The Ridership Recipe

Linearity: How direct of a connection can be made?

Higher Ridership

Closer/aligned destinations means direct travel paths and shorter trip durations.

Lower Ridership



Dispersed destinations require circuitous travel paths and longer trip durations.

If Ridership is the Goal: The Ridership Recipe

Proximity: How close are origins and destinations?

Higher Ridership

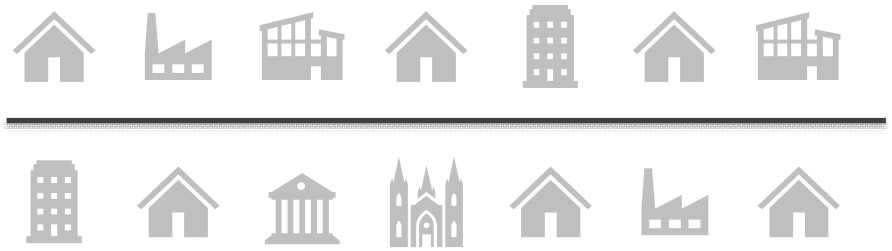
Lower Ridership

Shorter trips are better than long trips.

If Ridership is the Goal: The Ridership Recipe

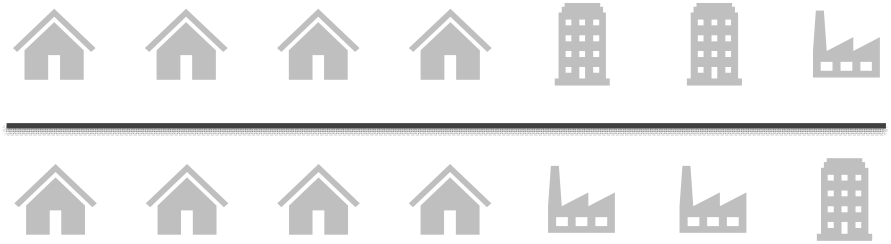
Mixed Land Uses: Is there bi-directional all-day demand?

Higher Ridership



Mixed land uses attract all kinds of trips all day long on weekdays and weekends.

Lower Ridership



Homogenous land uses serve fewer kinds of trips, at fewer days/times, and create unidirectional demand that results in empty buses in one direction.

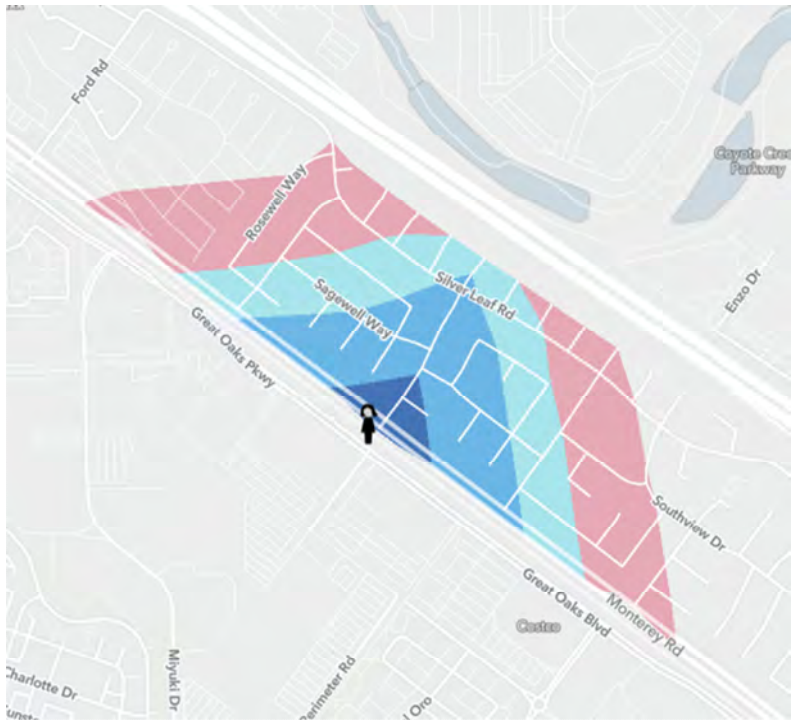
If Ridership is the Goal: The Ridership Recipe

Walkability: How accessible is the transit stop?

Higher Ridership

Street grid maximizes access

Lower Ridership



Train tracks, creeks, and freeways prevent access

2 Minute Walk

5 Minute Walk

7 Minute Walk

10 Minute Walk

Designing for High-Ridership Service

Service Levels

"How much service?"

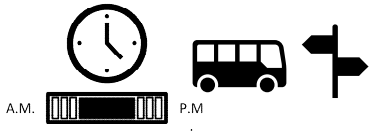
- ❑ Service hours
- ❑ Vehicles
- ❑ Operators

→

- ✓ Frequency
- ✓ Span (start/end times)
- ✓ Passenger load

Designing for High-Ridership Service

Route Design



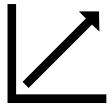
"Where should the service go?"

Routes should be:

- ✓ Simple & consistent
- ✓ Symmetrical
- ✓ On a direct path
- ✓ Minimize deviations
- ✓ Along arterials (Rapid & Frequent Routes)
- ✓ Fast (give transit vehicles priority)
- ✓ Coordinated (timed transfers, aligned frequencies)
- ✓ Space stops appropriately

Designing for High-Ridership Service

Service Productivity

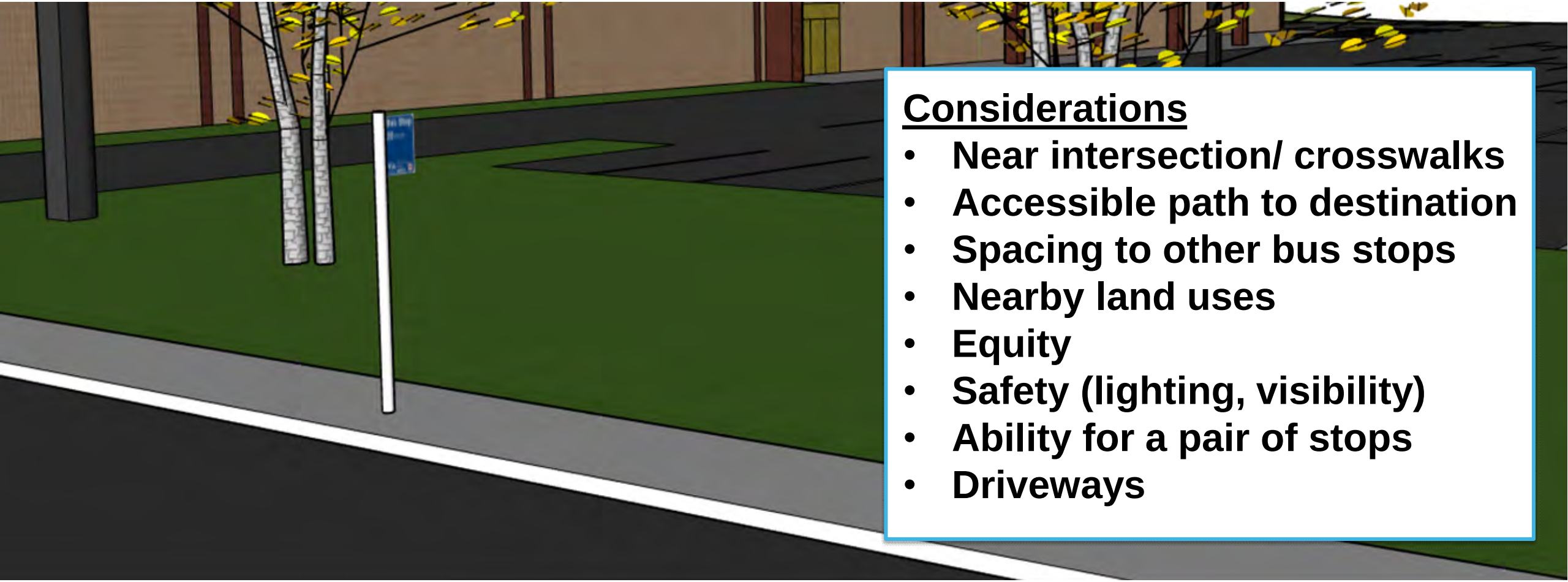


"How efficient/effective is the service?"

Some metrics include:

- Average daily riders (weekdays vs. weekends)
- Boardings per hour
- Operating cost per boarding
- Activity by stop (boardings + alightings)

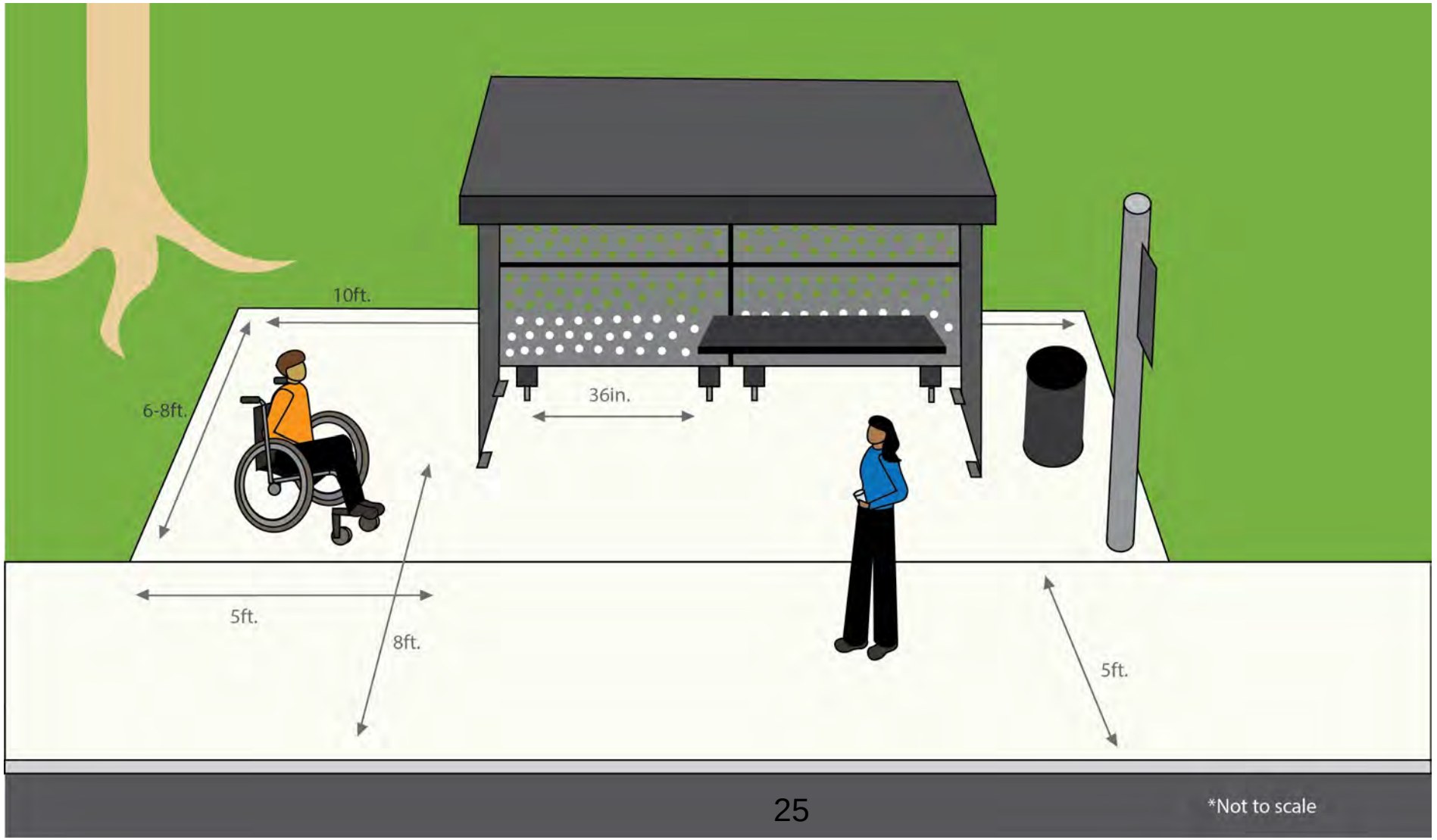
Role of Bus Stops in Service Planning



Considerations

- Near intersection/ crosswalks
- Accessible path to destination
- Spacing to other bus stops
- Nearby land uses
- Equity
- Safety (lighting, visibility)
- Ability for a pair of stops
- Driveways

Elements of an ADA-Compliant Bus Stop



Some Final Thoughts and Reminders

- YoloTD prefers 11-foot lanes
- YoloTD does not have a stated ridership vs coverage goal
- Consider bikeway/bus interactions especially at bus stops – bus boarding islands are crucial when separated bikeways are installed
  - Except at time points
- Land uses can change over time, but change can be slow – talk to us early and often!
- Chicken and the egg problem: If transit tries to follow development, you'll never be able to get the transit you want
- Developers can help fund transit improvements
- Cities control factors that determine ridership: Density, linearity, walkability, proximity, and land use mix
- Cities control quantity and quality of transit: Street design and priority policies determine transit travel speeds

Short-Range Transit Plan

- Ongoing Yolobus network redesign
- Most transit agencies undergo major redesigns every 10-15 years
- Schedule:
  - Rider preference survey spring 2024
  - Existing conditions report and goals/objectives/performance measures finalized
  - High-level routing recommendations beginning
  - Anticipate presenting an update on recommendations in summer 2025

Questions?

Lola Torney – Senior Transportation Planner

ltorney@yctd.org

CITIZENS ADVISORY COMMITTEE COMMUNICATION: YOLO COUNTY TRANSPORTATION DISTRICT
350 Industrial Way, Woodland, CA 95776---- (530) 661-0816

Topic: Woodland Transit Center Relocation Update	**Agenda Item#:**	**5**
	Agenda Type:	**Informational**
		Attachments: (Yes) **No**
Prepared By: B. Abbanat / A. Bernstein		**Meeting Date**: January 6, 2025

STAFF RECOMMENDATIONS:

1. Receive presentation on current status of the Woodland Transit Center Relocation project.

BACKGROUND:

Woodland Transit Center Relocation Process

Overview

Yolobus operates or jointly operates a transit center in each of the three major cities in Yolo County. Each transit center serves as the central hub for local and intercity buses. Transit centers are usually located close to a key destination or cluster of destinations, such as a central business district or major employer. They are a place to facilitate transfers from one bus route to another. Transit Centers are situated in a location that allows for several buses to stop simultaneously, which generally requires a larger footprint than a typical bus stop.

In Woodland, the transit center is located at the County Fair Fashion Mall, a declining mall at the southern end of town. The transit center is isolated in the southwest corner of the mall parking lot, with no open businesses other than Walmart. Staff frequently receive unsolicited feedback regarding safety issues at the current location. Finally, several serious incidents have occurred in recent months including a homicide that several of our drivers witnessed, one of our interns being physical threatened while conducting outreach, and a similar experience occurring to our Executive Director.

In December 2023, staff conducted a qualitative survey of Yolobus riders to learn their perspectives of the current Woodland transit center location and their receptiveness to a potential relocation. Almost 500 responses were submitted, with only 4% having a “negative” or “very negative” perspective about relocating the transit center.

The concerns noted above were historically uncommon and result from the County Fair Mall no longer serving as a major destination center.

Today, the largest concentration of trip attractors in Woodland is the greater downtown area – including professional office, retail, dining, and most of the social, health and human services that many transit-dependent Yolo County residents rely on. Furthermore, SACOG estimates approximately 3,500 jobs exist in the downtown area between East Street, West Street, Lincoln Ave and North Street. Currently, Yolobus flagship intercity Route 42 buses do not serve downtown Woodland. Thus, passengers from West Sacramento, downtown Sacramento or Davis must travel to the County Fair Mall and then transfer to Route 211 or 212 (West & East Woodland locals, respectively), which operate once per hour. Of the three largest Yolo County cities, only Woodland's downtown central business district (CBD) is not served by Route 42. A longtime YoloTD service objective has been to provide asingle-seat intercity fixed route option to downtown Woodland via Route 42.

Prior Studies & Analysis

2019 Off-Street Transit Center Study

In late 2019, Kimley-Horn prepared a draft project development report for an earlier iteration of the Woodland Transit Center project. The draft report identified and evaluated seven potential off-street sites for a new transit center based on a multi-year project process, zeroing in on a downtown site at 3rd & Court and between Armfield Ave & Main Street. Since then, several factors changed the facility requirements and siting priorities for the transit center including the desire for an on-street transit center which can accommodate a move more quickly in response to deteriorating conditions at the County Fair Mall.

2023 Phase 1: On-Street Alternatives Analysis

In April 2023, YoloTD contracted with Kimley Horn Associates to update and revise their prior study of possible new locations for the Woodland Transit Center. The scope of the contract included identifying multiple site locations in downtown Woodland that meet facility requirements without requiring private right-of-way and preparing initial concept layouts for feasible options.

2024 Phase 2: 30% Design for 2nd & Court Street

In April 2024, staff presented the findings of the downtown transit center analysis, which included two sets of three alternatives. Operational benefits and drawbacks of each location were presented, with the YoloTD Board affirming the 2nd & Court Street location as the "Preliminary Preferred Alternative" pending additional analysis. The Board authorized staff to proceed to 30% design to better understand traffic impacts, infrastructure improvements, relocation costs, and timing.

Findings of 30% Design & Traffic Analysis

Since April 2024, staff and consultants Kimley-Horn have worked collaboratively with the City of Woodland to assess any traffic impacts, address safety concerns on Court Street, and identify infrastructure improvements needed and incorporate them into the 30% design drawings. Entering this work phase, the below issues were a primary concern:

- **Data:** What are the intersection turn movement volumes at Court Street intersections?
    - Outcome: Resolved. Traffic study concluded additional bus volumes do not have a tangible effect on downtown traffic circulation.

- **Needs:** Are traffic signal upgrades, "protected" left turns needed, what are the priorities?
    - Outcome: Resolved. Traffic study concluded additional bus volumes do not trigger traffic signal upgrades.

> *"The intersections are expected to continue to operate at acceptable levels with delay changes of less than one second… none of the intersections are projected to experience significant adverse impacts as a result of the implementation of the new transit center."*
>
> *-2024 Traffic and Safety Analysis Memorandum*

- **Cost:** What exactly is needed to facilitate the relocation and how much will it cost?
    - Outcome: Analysis Complete.
        - Kimley-Horn's original planning level cost estimate, excluding required ADA ramp improvements at select intersection corners is approximately **$415,000.**
        - Revised cost estimates including City of Woodland safety and street improvements requests is approximately **$1,200,000.**

- **Timing:** Based on above analysis, when could the downtown Woodland Transit Center relocation be implemented?
    - Outcome: Unresolved (see next section)

Reception Towards Downtown 2nd & Court Street Location

Throughout this process staff and consultants have worked diligently and in close coordination with City of Woodland staff to analyze several downtown alternatives that meet the minimal siting and operational criteria. Upon YoloTD Board direction and with City of Woodland staff awareness, YoloTD proceeded to 30% design of the "Preliminary Preferred Alternative" location at 2nd & Court Street. Upon addressing all outstanding questions, traffic analysis, and incorporating City infrastructure improvements, YoloTD staff began socializing this location with local elected officials, including City of Woodland councilmembers and Yolo County supervisors.

City of Woodland

In October 2024, in response to the traffic analysis and draft 30% design, the City of Woodland made several requests for infrastructure improvements which YoloTD accommodated in the revised 30% design drawings and cost estimates. These include:

- Safety improvements at 2nd Street intersection (reconstruct north side curb lines to reduce crossing distance/improve sightlines, demolish and reconstruct intersection with enhanced crosswalks, install flashing crossing beacons, construct center refuge islands);
- Ramp reconstruction for ADA compliance;
- Upgraded street lighting;

- Bicycle improvements included green-painted bike lanes and bicycle parking.

These requests raised the expected relocation cost from approximately $415,000 to almost $1.2 million.

Presentations to Elected Officials

In October and November, at the request of Woodland city staff, YoloTD staff presented downtown transit center relocation findings at two separate meetings consisting of less-than-quorum elected officials. At best, their responses to this proposal were mixed without any members voicing strong support.

The first presentation on October 9, 2024 was with Yolo County Supervisors Angel Barajas and Mary Sandy. The second and most recent presentation occurred on November 13, 2024 at the Woodland/Yolo County 2x2 meeting which was attended by Woodland Councilmembers Vicky Fernandez, Rich Lansburgh, Yolo County Supervisor Angel Barajas and Deputy Yolo County Supervisor, and City Councilmember-Elect David Moreno (on behalf of Supervisor Mary Sandy). Concerns raised by members of this group included:

- Traffic congestion concerns due to platoons of passengers crossing the street to transfer between buses;
- Public safety concerns, particularly loitering;
- Concerns about darkness;
- Relocation to Court St location could make AHSC application for Yolano-Donnelly redevelopment less competitive because the Court Street location would not have the same safety and crime concerns as the County Fair Mall;
- Narrowing the pedestrian crossing distance at 2nd Street would make it impossible for eastbound through traffic to cut into the bike lane to pass cars turning left on 2nd Street. This would improve pedestrian and bicycle safety but may increase delay for drivers;
- Desire to see more than one viable alternative;
- Request for additional analyses at Court & College Street and south of Main Street near 6th Street (both locations evaluated and excluded in prior analysis).

YoloTD staff believe that many of these concerns reflect misperceptions about the scale of the transit center and its likely impacts or a lack of awareness about analysis that has already been completed. As these concerns could not be assuaged over the course of these two meetings, staff conclude the level of support for this proposal from key decision-makers at the City of Woodland and Yolo County may be less than needed to effectuate a downtown transit center relocation in a timely fashion. YoloTD staff have not been invited to present the proposal to the full Woodland City Council, and a planned outreach event to engage downtown businesses and stakeholders has also been on hold pending these discussions.

Long Term Opportunity: Yolano-Donnelly Redevelopment site (East Street & Lemen Ave)

Informal conversations over the past six months have resulted in a potential opportunity for a purpose-built, long-term transit center associated with Yolo County Housing Authority's intended redevelopment of their Yolano-Donnelly affordable housing site. The site is located at the intersection of East Street and Lemen Ave, on the eastern edge of downtown Woodland. Redevelopment of this site is both a City

and County priority. YoloTD was invited to partner on an approximately $15 million funding request from the California Department of Housing and Community Development's Affordable Housing and Sustainable Communities (AHSC) program. The project will provide a substantial net increase in affordable housing units.

The AHSC program requires that applications include significant VMT-reducing transportation improvements benefiting the project's affordable housing residents. The capital improvements for VMT reduction projects are grant-eligible expenses. The Yolano-Donnelly AHSC grant application, due in late April 2025, will be uncompetitive without a significant VMT-reducing transportation project. The transit center, if included in the application, would fulfill that requirement. If funded, all housing and infrastructure improvements must be completed within five years of award.

The emergence of the Yolano-Donnelly partnership, if successful in winning AHSC grant funds, would achieve many of the project goals at a fraction of the cost, while leveraging the pre-existing political support for the redevelopment project. However, shifting the long-term focus to Yolano-Donnelly is not without risks. These include:

- **Contingent on grant funding:** The transit center would be contingent on the overall Yolano-Donelly project receiving grant funds from a highly competitive and oversubscribed state funding program;
- **Slower timeline:** In the best of circumstances, a new transit center at Yolano-Donnelly is at least five years away;
- **Peripheral location:** Compared to the Court Street location, Yolano-Donnelly provides less convenient access to key destinations in the downtown core.
- **Routing constraints:** To serve the Yolano-Donnelly site, our buses would need to reroute along streets the City has previously deemed undesirable for buses. YoloTD would need guarantees from the City that we can make routing decisions between the new transit center and existing bus stops and key destinations that are operationally preferable.

12/9/2024 YoloTD Board Discussion and Action

This topic was discussed at the12/9/2024 YoloTD Board meeting where staff presented an alternative short-term opportunity to relocate the transit center to the Gateway / Costco Shopping Center due to the lukewarm response to the Court Street proposal and request from the City of Woodland for over $1 million in infrastructure improvements. YoloTD staff did not see a clear path to a successful and cost-effective downtown transit center relocation. While not a preferred location, staff recommended approving a feasibility study for relocating to the Gateway / Costco Shopping Center until a long-term solution can be realized based on the following advantages:

- **Location:** A thriving retail, dining, and health services center
- **Infrastructure:** An existing bus pullout on Veterans Drive with three bus bays, shelters, and lighting.

- **Safety:** During the daytime, substantial pass-by traffic provides “eyes on the street”.
- **Cost:** significantly lower relocation costs are expected than the Court Street site.

  This location is accompanied by some noteworthy drawbacks. First, the immediate vicinity parcels are undeveloped and thus, the location is somewhat isolated and may provide a reduced sense of safety, particularly during the evening when the shopping center activity declines. Equally important are the significant routing impacts this location would cause. The most significantly impacted routes would be the Woodland local Routes 211 and 212, the Route 215 (Cache Creek Casino) and the Intercity 42 A/B. Additionally, the 42 A/B would likely continue to bypass downtown, following its current routing on Main Street and Matmor/East Streets. While additional analysis is needed to fully understand service effects, the Gateway / Costco Shopping Center may be the best candidate to accommodate a timely relocation at minimal cost.

The YoloTD Board did not approve the staff recommendation for a Gateway/Costco site feasibility study. The YoloTD Boardvoted to conditionally support for an AHSC application in partnership with Yolo Housing Authority, and reaffirmed their preference for the Preliminary Preferred Alternative (i.e. 2nd & Court Street) location. The YoloTD Board directed staff to look at two potential options for the AHSC application: the first being a full transit center at Yolano Donnelly; and the second being a transit stop at Yolano-Donnelly, and a full transit center at the 2nd and Court location. The Board approved on a 3-0-1 vote the following motion:

> a. Recognizing that, while the Yolano-Donnelly site is not the only transit center option, the YoloTD Board nevertheless: (1) endorses the grant application to the California Department of Housing and Community Development’s Affordable Housing and Sustainable Communities (AHSC) program for the Yolano-Donnelly redevelopment project, contingent upon execution of a Memorandum of Understanding (MOU) with the City of Woodland supporting routing of intercity bus routes into the downtown, and 2) commits to providing sufficient research assistance to assist in preparing a viable application;
>
> b. Directing staff to pursue analysis of 2nd and Court for the Woodland Transit Center as quickly as possible.

Current Status & Next Steps

Subsequent conversations with YCHA and City of Woodland staff have discovered that transit center infrastructure costs associated with the 2nd & Court Street location are eligible for AHSC funding since they reside within one mile of the Yolano-Donnelly Redevelopment site.

YoloTD is currently planning for an outreach event in late January to raise awareness of and seek input about relocating the transit center to the 2nd and Court Street location. This would include tabling, posterboards, and feedback surveys throughout the day with buses stationed at the proposed site,

followed by a more formal event later in the afternoon. Following this event, YoloTD anticipates presenting to the Woodland City Council for their input, and returning to the YoloTD Board of Directors in February and/or March for further direction on the AHSC application. These activities must all occur prior to the late April AHSC grant application deadline.

ATTACHMENTS:

1. 30% Design Drawings and Opinion of Probable Costs
2. Traffic and Safety Analysis Memorandum

YOLO TRANSPORTATION DISTRICT
WOODLAND TRANSIT CENTER RELOCATION PROJECT

NOVEMBER 2024

SHEET NUMBER AND TITLES

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF IMPROVEMENTS ON COURT STREET BETWEEN 1ST STREET AND 3RD STREET AND AT THE INTERSECTION OF MAIN STREET AND 3RD STREET IN THE CITY OF WOODLAND. THE IMPROVEMENTS INCLUDE:

- BUS PAD CONSTRUCTION
- SHELTER PAD CONSTRUCTION AND SHELTER INSTALLATION
- CURB RAMP RECONSTRUCTION
- STRIPING AND SIGNING MODIFICATIONS

CERTIFICATION OF PEER REVIEW:
THE UNDERSIGNED HEREBY CERTIFIES THAT A PROFESSIONAL PEER REVIEW OF THESE PLANS AND THE REQUIRED DESIGN WAS CONDUCTED BY ME, A PROFESSIONAL ENGINEER WITH EXPERTISE AND EXPERIENCE IN THE APPROPRIATE FIELD OF ENGINEERING EQUAL TO OR GREATER THAN THE ENGINEER OF RECORD, AND THAT APPROPRIATE CORRECTIONS HAVE BEEN MADE.

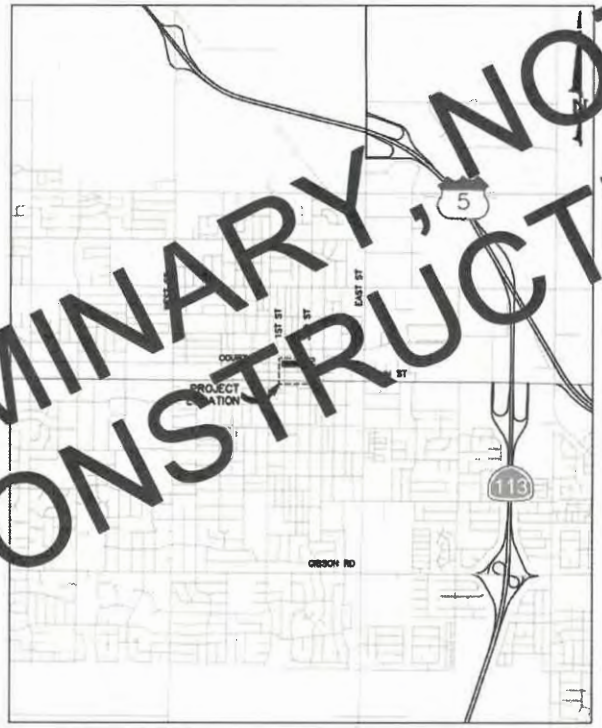
APPROVED:

XX/XX/XXXX
ADAM DANKSBERG, P.E., KIMLEY-HORN — PLANS APPROVAL DATE

YOLO TRANSPORTATION DISTRICT AGENCY ENGINEER:
YOLO TRANSPORTATION DISTRICT HEREBY ACCEPTS THESE PLANS FOR CONSTRUCTION, AS BEING IN COMPLIANCE WITH PLANS PREPARATION REQUIREMENTS OF THIS GOVERNING AGENCY. RESPONSIBILITY FOR THE COMPLETENESS AND ACCURACY OF THE PLANS AND RELATED DESIGNS RESIDES WITH THE ENGINEER AND ENGINEERING FIRM OF RECORD.

RECOMMENDED FOR BIDDING:

XX/XX/XXXX
BRIAN ABBANAT, PLANNING DIRECTOR, YOLO TRANSPORTATION DISTRICT — PLANS APPROVAL DATE



PROJECT LOCATION MAP
NOT TO SCALE

PROJECT GENERAL NOTES:

1. ALL WORK [illegible] SHALL [illegible] THE LATEST EDITION OF THE CITY OF WOODLAND STANDARD SPECIFICATIONS AND THE LATEST EDITION OF THE CALTRANS STANDARD SPECIFICATIONS AND THE LATEST EDITION OF THE CALTRANS STANDARD PLANS UNLESS OTHERWISE NOTED.

   REFER TO CALTRANS STANDARD PLANS [illegible] KEY TO SYMBOLS.

2. [illegible] SHALL BE RESPONSIBLE FOR ALL [illegible] ASSOCIATED WITH THE PROJECT. [illegible] SHALL TAKE ALL [illegible] PRECAUTIONS TO PREVENT DAMAGE TO ALL EXISTING IMPROVEMENTS, WHETHER SHOWN ON THE PLANS OR NOT. [illegible] SHALL NOTIFY ALL UTILITY AGENCIES THAT HAVE BEEN IDENTIFIED AS HAVING BEEN WITHIN THE AREA OF WORK AT LEAST 72 WORKING DAYS IN ADVANCE OF THE START OF ANY EXCAVATION WITHIN THE PROJECT LIMITS. [illegible] SHALL ALSO NOTIFY THE CITY ENGINEER AT LEAST 72 HOURS IN ADVANCE OF THE START OF ANY EXCAVATION WITHIN THE CITY LIMITS. [illegible] SHALL LOCATE AND DETERMINE THE DEPTH OF ALL UTILITIES AND STRUCTURES THAT MAY BE IN CONFLICT DURING CONSTRUCTION. [illegible] SHALL BE RESPONSIBLE FOR ANY NECESSARY COORDINATION WITH THE UTILITY COMPANIES FOR THE RELOCATION OF THEIR FACILITIES.

4. THE CONTRACTOR AGREES THAT IN ACCEPTING AND EXECUTING THE CONTRACT, IT IS RELYING ON ITS OWN INVESTIGATION OF THE CONDITIONS TO BE ENCOUNTERED AND THE WORK TO BE PERFORMED, INCLUDING BUT NOT LIMITED TO, THE CONDITIONS OF THE SOIL AND SUBSOIL, THE CHARACTER OF EQUIPMENT AND FACILITIES NEEDED PRIOR TO AND DURING THE PROSECUTION OF THE WORK, AND THE LABOR REQUIREMENTS. [illegible] SHALL NOT BE ENTITLED TO ANY ADDITIONAL COMPENSATION OR EXTENSION OF TIME BY REASON OF ANY MISUNDERSTANDING OR LACK OF INFORMATION CONCERNING ANY CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE PROGRESS OF THE WORK, EXCEPT AS PROVIDED FOR IN THE CONTRACT DOCUMENTS.

5. THE CONTRACTOR SHALL HAVE A DESIGNATED EMPLOYEE WHO SHALL BE RESPONSIBLE FOR ENFORCEMENT OF ALL SAFETY AND TRAFFIC CONTROL REGULATIONS AND MAINTENANCE OF TRAFFIC DURING THE WINTER MONTHS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL FACILITIES WITHIN THE PROJECT LIMITS IN A SAFE CONDITION AT ALL TIMES, INCLUDING THOSE PERFORMED BY SUBCONTRACTORS, UNTIL FINAL ACCEPTANCE OF THE WORK BY THE CITY ENGINEER.

7. THE CONTRACTOR SHALL IDENTIFY A QUALIFIED INDIVIDUAL WHO IS AUTHORIZED TO REPRESENT THE CONTRACTOR, AND A 24-HOUR TELEPHONE NUMBER THAT ALLOWS THE CITY TO CONTACT THE INDIVIDUAL IN WHICH CONSTRUCTION RELATED ISSUES MAY ARISE.

   THE CONTRACTOR SHALL EXERCISE DUE CARE TO KEEP ALL MATERIALS AND EQUIPMENT WITHIN THE RIGHT-OF-WAY AND EASEMENTS OBTAINED FOR THE PROJECT. THE CONTRACTOR'S USE OF THE PUBLIC RIGHT-OF-WAY SHALL NOT BE LIMITED TO, BUT SHALL INCLUDE ANY AND ALL EQUIPMENT LIMITATIONS AS SET FORTH IN THE ENCROACHMENT PERMIT AND ANY OTHER APPLICABLE REGULATIONS AS DIRECTED BY THE CITY ENGINEER.

9. THE CONTRACTOR SHALL PROVIDE TEMPORARY TRAFFIC CONTROL DEVICES, INCLUDING BUT NOT LIMITED TO, WARNING LIGHTS, FLAGGERS OR OTHER ITEMS AS REQUIRED TO PROVIDE FOR THE SAFETY WITHIN THE PROJECT SITE. THIS REQUIREMENT SHALL APPLY WITHIN AND BEYOND THE LIMITS OF WORK AS NECESSARY.

10. EXISTING CITY COMMUNICATION AND SIGNAL FACILITIES ARE LOCATED IN THE PROJECT VICINITY. COMMUNICATION AND SIGNAL FACILITIES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AND THEN RELOCATED TO THE LATEST CITY STANDARDS AS DIRECTED BY THE CITY ENGINEER AT THE CONTRACTOR'S EXPENSE. DAMAGE TO SIGNAL INTERCONNECT CABLE SHALL BE CAUSE FOR THE ENTIRE LENGTH BETWEEN CONTROLLERS TO BE REPLACED AT THE CONTRACTOR'S EXPENSE.

11. CONTRACTOR SHALL PROTECT IN PLACE ALL EXISTING IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO, LANDSCAPING, FIXTURES, PAVEMENT, SIDEWALK, CURB AND GUTTER, ETC. UNLESS OTHERWISE NOTED ON THE PLANS. CONTRACTOR OPERATIONS SHALL BE CONDUCTED IN A MANNER TO MINIMIZE DISRUPTION TO THE CITY. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE CITY. ADDITIONAL COST TO THE CITY.

12. DUST SHALL BE CONTROLLED AT ALL TIMES ON ALL STREETS AND PRIVATE DRIVEWAYS. HAUL ROUTES FOR PROJECT DIRT, MUD, MATERIAL AND EQUIPMENT SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

13. CONTRACTOR SHALL KEEP ALL STREETS CLEAN AT THE END OF THE DAILY EFFORT AND AT THE END OF EACH WORKING DAY.

14. IT IS INTENDED THAT THE PLANS, SPECIFICATIONS AND ALL SUPPLEMENTARY MATERIAL SHALL BE USED TO DESCRIBE AND PROVIDE FOR A COMPLETE WORK IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE INTENT OF THE PLANS AND SPECIFICATIONS IS TO PROVIDE FOR AND INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR THE PROPER EXECUTION OF THE WORK BY THE CONTRACTOR. ANY WORK SHOWN ON THE PLANS OR SPECIFICATIONS BUT NOT MENTIONED IN THE OTHER SHALL BE FURNISHED AND PERFORMED IN THE SAME MANNER AS IF MENTIONED IN BOTH. IN CASE OF DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS, THE MATTER SHALL BE IMMEDIATELY SUBMITTED TO THE ENGINEER, WHOSE DECISION SHALL BE FINAL AND CONCLUSIVE. WHERE LANGUAGE, DIMENSIONS OR DETAILS ON ONE SHEET ARE INCOMPLETE OR ARE OMITTED, BUT ARE SHOWN ON ANOTHER SHEET, THE COMPLETE DETAIL IS INCLUDED. THAT WHICH IS NOT SHOWN OR MENTIONED, BUT WHICH IS OBVIOUSLY NECESSARY TO THE PROPER AND COMPLETE CONSTRUCTION OF THE WORK SHALL BE PERFORMED AS IF FULLY SHOWN OR DESCRIBED, AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE BEST ESTABLISHED PRACTICE TO BE USED FOR THE HIGHEST QUALITY OF WORK. ANY MATERIAL AND WORKMANSHIP NOT SPECIFICALLY DESCRIBED BUT NECESSARY FOR A SATISFACTORY INSTALLATION OF THE SPECIFIED ITEMS SHALL BE PROVIDED WITHOUT ADDITIONAL COST TO THE CITY.

15. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER IMMEDIATELY OF ANY POTENTIAL FIELD CONFLICT.

16. PROPER TRAFFIC CONTROL SHALL BE MAINTAINED AT ALL TIMES IN ACCORDANCE WITH THE CALIFORNIA MUTCD. CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLANS TO THE CITY FOR REVIEW AT PRE-CONSTRUCTION MEETING OF THE CONTRACTOR'S PLAN FOR ANY WORK THAT SHALL MAINTAIN EXISTING ACCESS AT ALL TIMES.

17. CONTRACTOR SHALL AVOID AND MINIMIZE ANY DAMAGE TO EXISTING LANDSCAPING WHERE POSSIBLE. ANY DAMAGE WILL OCCUR.

ABBREVIATIONS

AP	ANGLE POINT
BC	BEGIN HORIZONTAL CURVE
Beg	BEGIN
C&G	CURB AND GUTTER
EC	END HORIZONTAL CURVE
Elec	ELECTRICAL
ETW	EDGE OF TRAVELED WAY
Exist	EXISTING
HMA	HOT MIX ASPHALT
PCC	PORTLAND CEMENT CONCRETE
PRC	POINT OF REVERSE CURVE
RRFB	RECTANGULAR RAPID FLASHING BEACON
R/W	RIGHT OF WAY
S/C	SAWCUT
SDDI	STORM DRAIN DRAINAGE INLET
STD	STANDARD
TS	TRAFFIC SIGNAL
Typ	TYPICAL
Var	VARIES
WV	WATER VALVE

UTILITY CONTACTS	
UTILITY	PHONE
COMCAST	1-415-[illegible]
PG&E	1-800-[illegible]
AT&T	811
CITY OF WOODLAND WATER	530-[illegible]
WAVE BROADBAND	1-707-[illegible]
CITY OF WOODLAND	530-[illegible]

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No.	REVISIONS	DATE	BY

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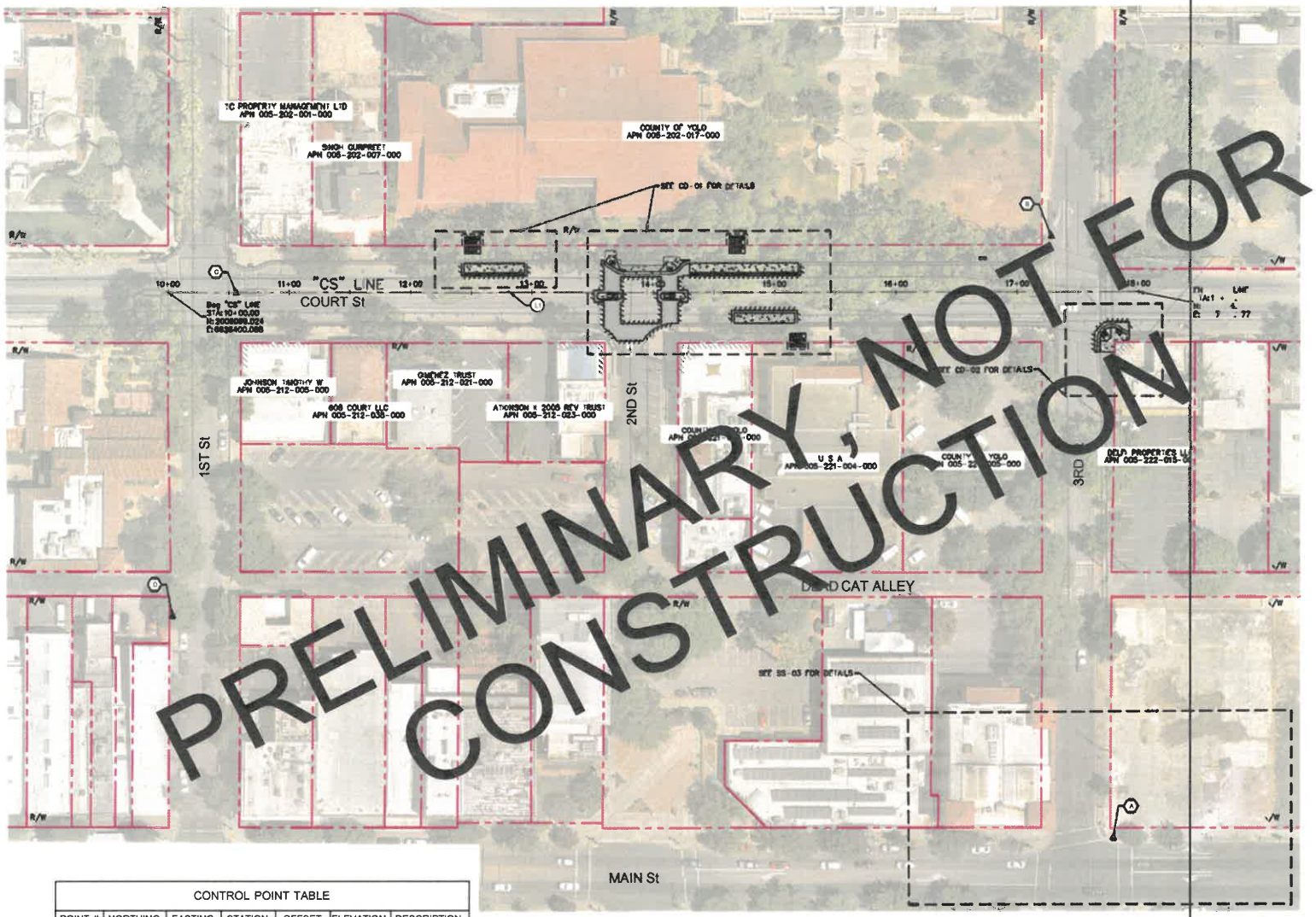
PHONE: 925-398-4840 FAX: 925-398-4848
WWW.KIMLEY-HORN.COM

KHA PROJECT 197130002
DATE 11/15/2024
SCALE AS SHOWN
DESIGNED BY ____
DRAWN BY ____
CHECKED BY ____

WOODLAND TRANSIT CENTER RELOCATION
PREPARED FOR
YOLO TRANSPORTATION DISTRICT
CITY OF WOODLAND STATE OF CALIFORNIA

LICENSED PROFESSIONAL
LIC PROF 1
STATE LICENSE NUMBER
LIC PROF 1 #
DATE ____

SHEET NAME
TITLE SHEET AND LOCATION MAP
SHEET NO. CV-01
SHEET 1 OF 13



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CONTROL POINT TABLE

POINT #	NORTHING	EASTING	STATION	OFFSET	ELEVATION	DESCRIPTION
A	2008645.55	6627177.71	17+79.97	449.42' Rt	65.50'	MAG NAIL
B	2009141.01	6627128.64	17+28.33	48.77' Lt	63.04'	MAG NAIL
C	2009098.29	6626466.43	10+56.35	0.44' Rt	64.41'	MAG NAIL
D	2008833.31	6626402.54	10+03.83	265.70' Rt	66.22'	MAG NAIL

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NORTH

...A HI ALE IN FEET 4

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WOODLAND TRANSIT CENTER RELOCATION

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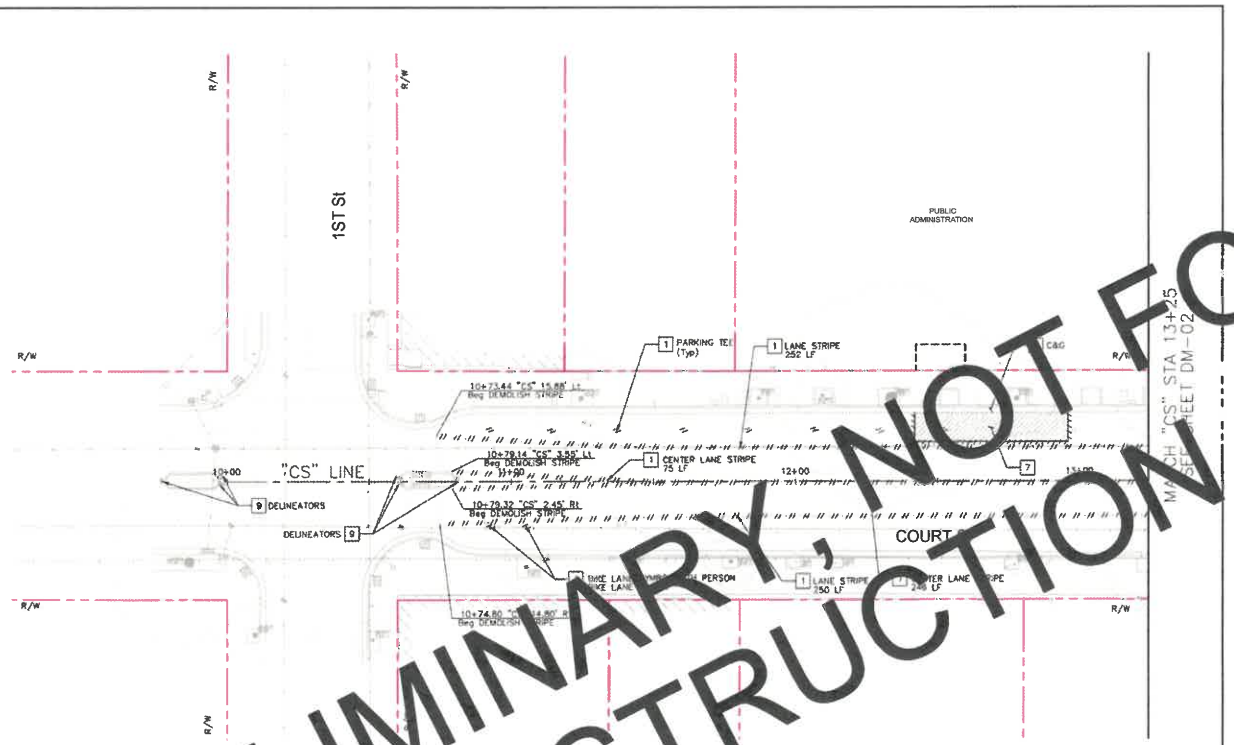
DATE ____

HORIZONTAL CONTROL

HEET N M E\

HC-01

SHEET 2 OF 13



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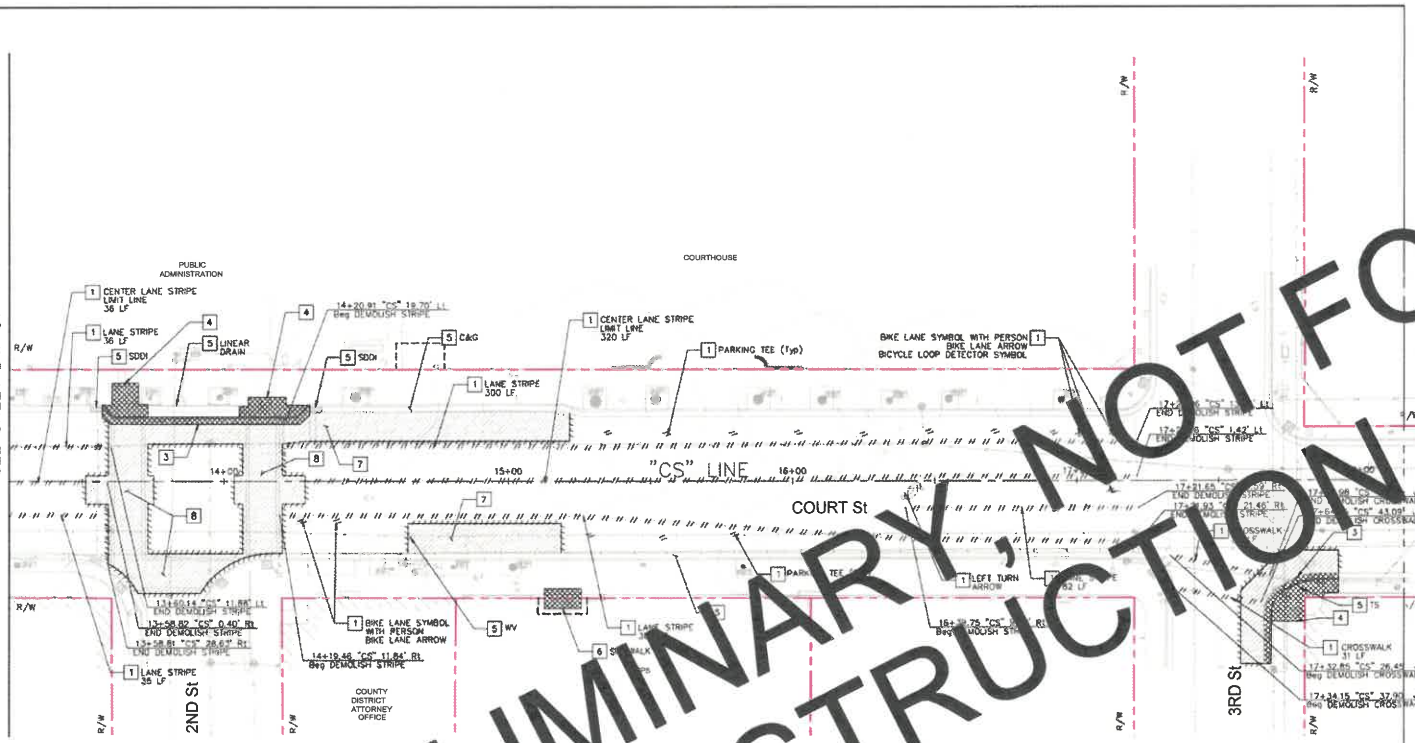
DEMOLITION PLAN

HEET N M E\
DM-01
SHEET 3 OF 13



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DEMOLITION NOTES

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CITY OF WOODLAND STATE OF CALIFORNIA

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LIC PROF \
STATE LICENSE NUMBER
LIC PROF \ #
DATE: ---

DEMOLITION PLAN

HEET N M E\
DM-02
SHEET 4 OF 13

NOTES

1. NOTIFY THE CITY OF WOODLAND TRAFFIC ENGINEER AT (530) 666-8046 AT LEAST 72 HOURS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY WITHIN THE PUBLIC RIGHT-OF-WAY.

EXISTING PAVEMENT, SIDEWALK, CURB AND GUTTER, AND OTHER IMPROVEMENTS SHOWN ON THESE PLANS WITHIN THE PUBLIC RIGHT-OF-WAY ARE TO REMAIN UNLESS OTHERWISE NOTED. CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS DURING CONSTRUCTION. ANY DAMAGE TO EXISTING IMPROVEMENTS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

LEGEND

- RIGHT OF WAY
- EXISTING
- DEMOLITION
- TRAFFIC SIGN
- EXISTING UTILITY
- REMOVE PAVEMENT, SIDEWALK, CURB AND GUTTER

DEMOLITION NOTES

1 DEMOLISH EXISTING SIGN

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DRAWN BY ---
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CITY OF WOODLAND STATE OF CALIFORNIA

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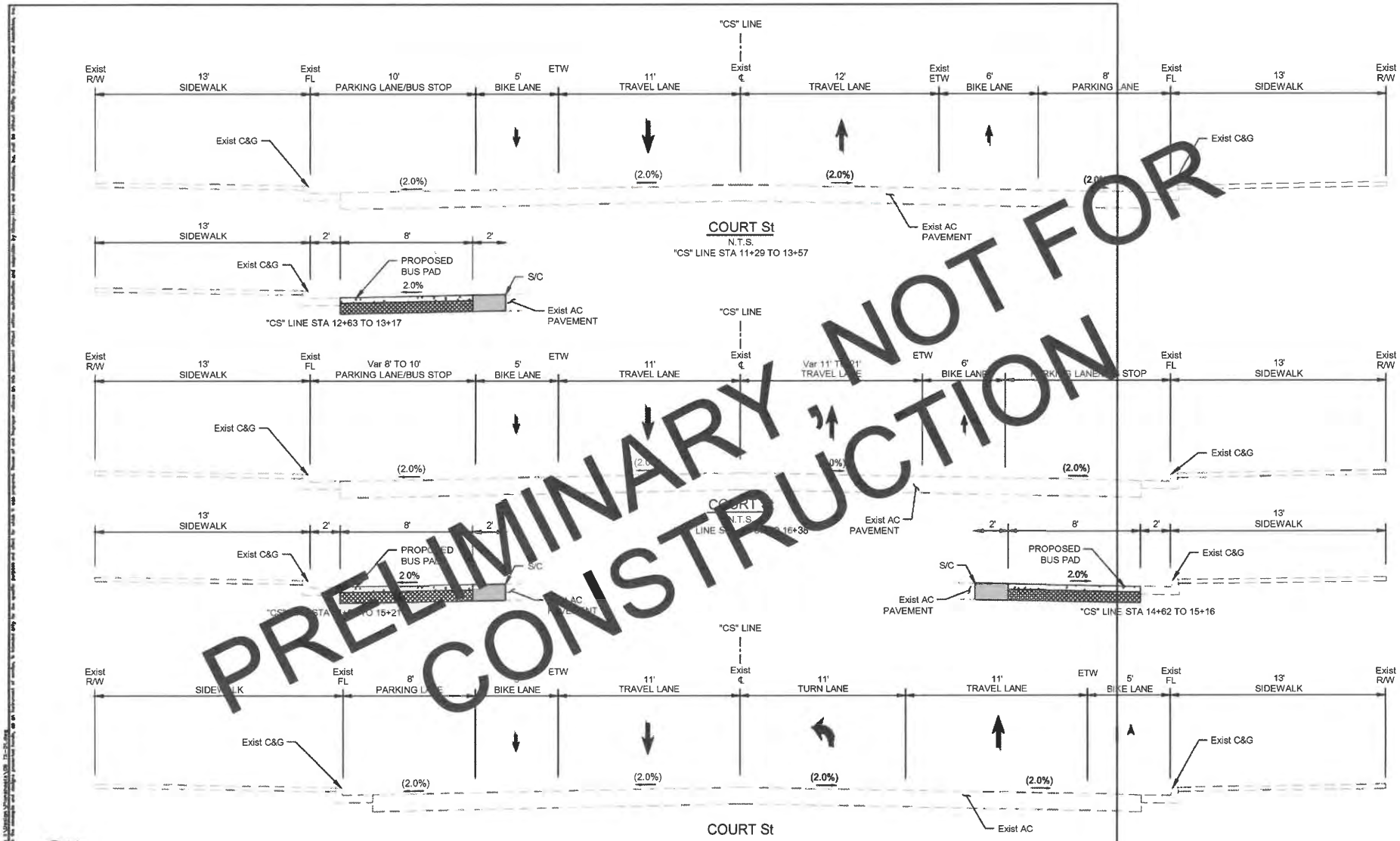
DATE: ____

DEMOLITION PLAN

SHEET NUMBER
DM-03
SHEET 5 OF 13



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PHONE: 925-398-4840 FAX: 925-398-4849
WWW.KIMLEY-HORN.COM

KHA PROJECT 197130002
DATE 11/15/2024
SCALE AS SHOWN
DESIGNED BY
DRAWN BY
CHECKED BY

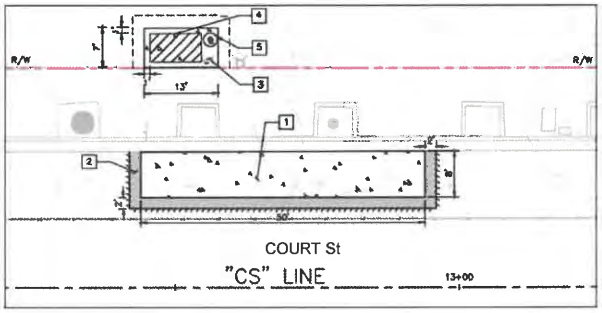
WOODLAND TRANSIT CENTER RELOCATION

PREPARED FOR
YOLO TRANSPORTATION DISTRICT
CITY OF WOODLAND STATE OF CALIFORNIA

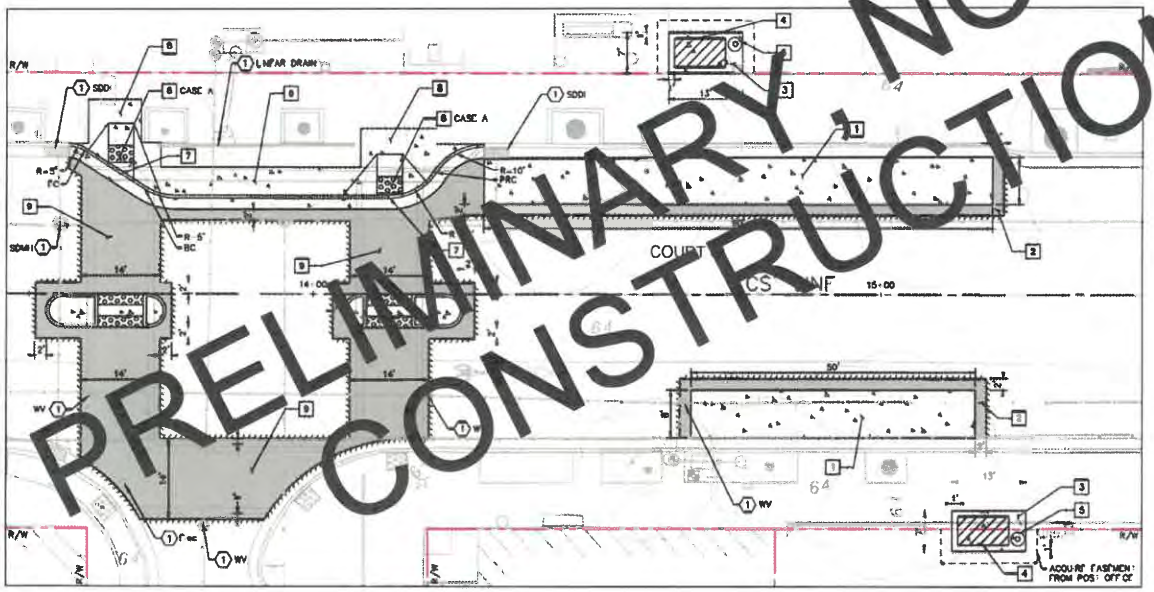
LICENSED PROFESSIONAL
LIC PROF 1
STATE LICENSE NUMBER
LIC PROF 1 #
DATE

TYPICAL SECTIONS

SHEET NUMBER
TX-01
SHEET 6 OF 13



COURT ST & 2ND ST
WESTBOUND FARSIDE BUS PAD AND SHELTER CONSTRUCTION DETAILS



COURT ST & 2ND ST
WESTBOUND NEARSIDE BUS PAD AND RAMP AND
EASTBOUND FARSIDE BUS PAD AND SHELTER CONSTRUCTION DETAILS

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CONSTRUCTION NOTES

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UTILITY NOTES

1 EXI TIN T \EMAIN.

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KHA PROJECT	197130002
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CHECKED BY	

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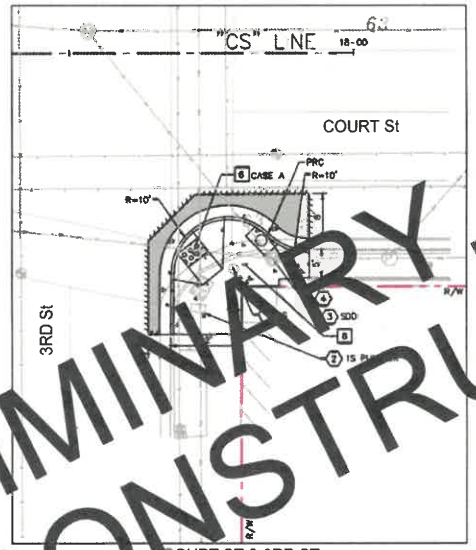
PREPARED FOR
YOLO TRANSPORTATION DISTRICT
CITY OF WOODLAND STATE OF CALIFORNIA

LICENSED PROFESSIONAL
UC PROF I
STATE LICENSE NUMBER
LIC PROF 1 #
DATED

CONSTRUCTION DETAILS

SHEET NUMBER
CD-01
SHEET 7 OF 13



COURT ST & 3RD ST
SE CORNER RAMP CONSTRUCTION DETAILS

NOTES

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UTILITY NOTES

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WOODLAND TRANSIT CENTER RELOCATION
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YOLO TRANSPORTATION DISTRICT
CITY OF WOODLAND STATE OF CALIFORNIA

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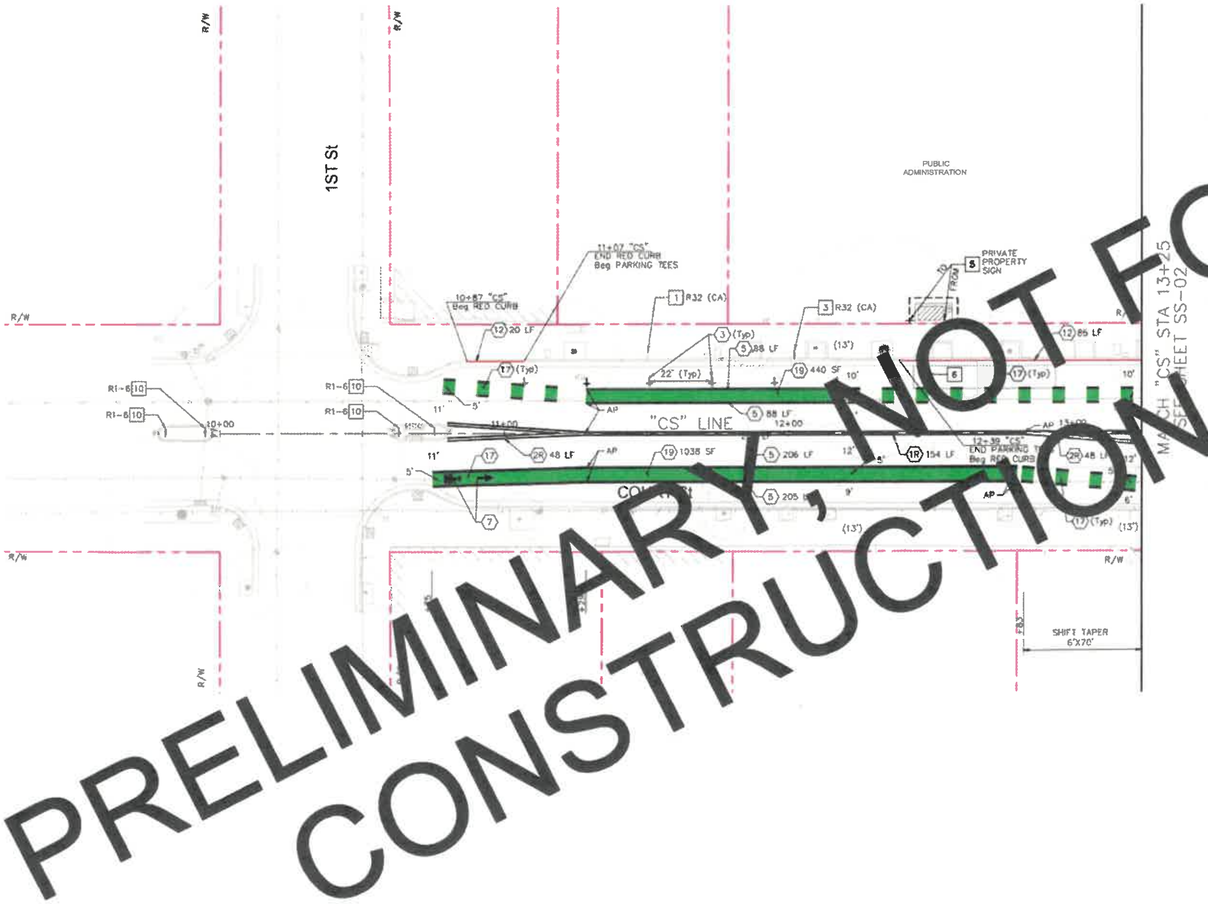
CONSTRUCTION DETAILS

HEET N M E\
CD-02
SHEET 8 OF 13



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KHA PROJECT 197130002
DATE 11/15/2024
SCALE AS SHOWN
DESIGNED BY ---
DRAWN BY ---
CHECKED BY ---

WOODLAND TRANSIT CENTER RELOCATION

PREPARED FOR

YOLO TRANSPORTATION DISTRICT

CITY OF WOODLAND STATE OF CALIFORNIA

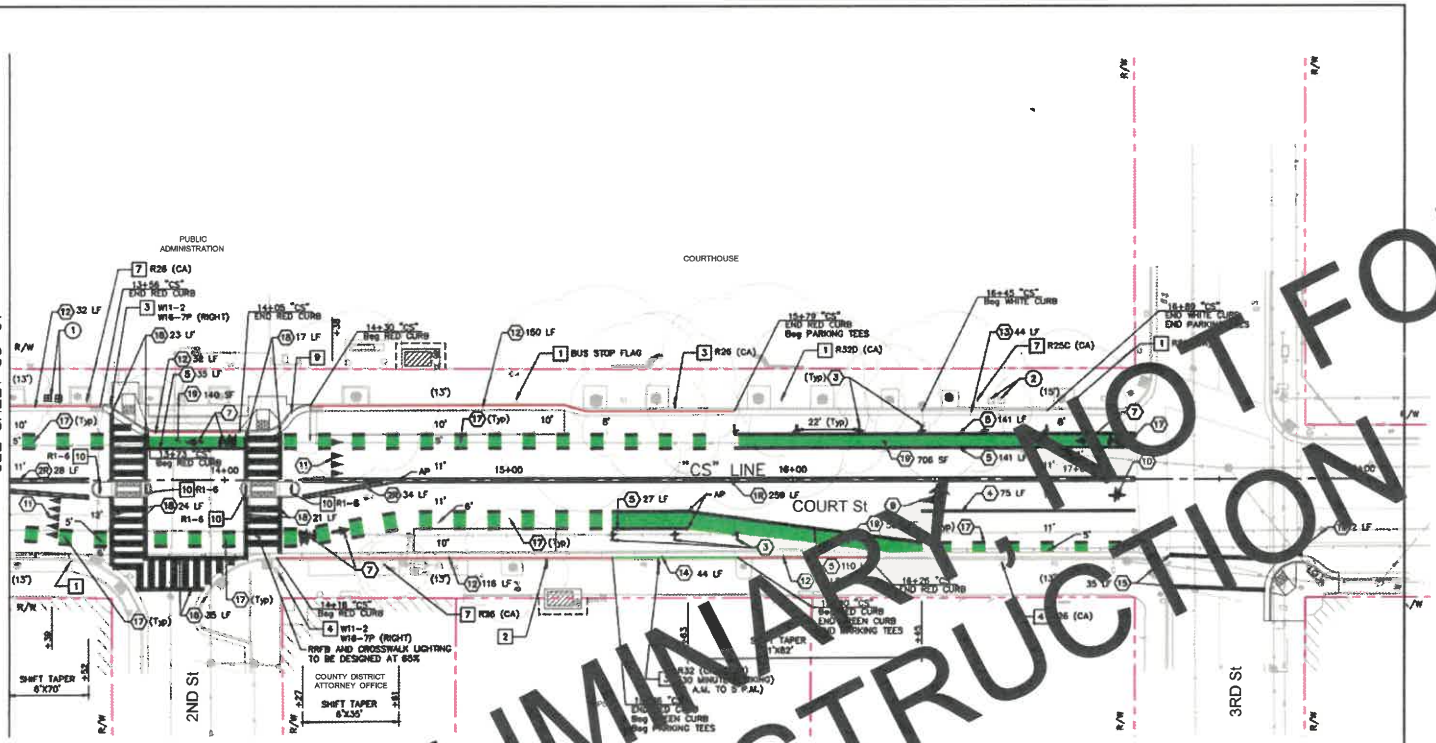
LICENSED PROFESSIONAL
LIC PROF 1
STATE LICENSE NUMBER LIC PROF 1 #
DATE: ---

SIGNING & STRIPING

HEET N M E

SS-01

SHEET 9 OF 13



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MISC CONSTRUCTION NOTES

1. SALVAGE EXISTING MAIL BOXES.
2. INSTALL SALVAGED MAIL BOXES.

NORTH

GRA HI ALE IN FEET 0 1 4

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DRAWN BY	____
CHECKED BY	____

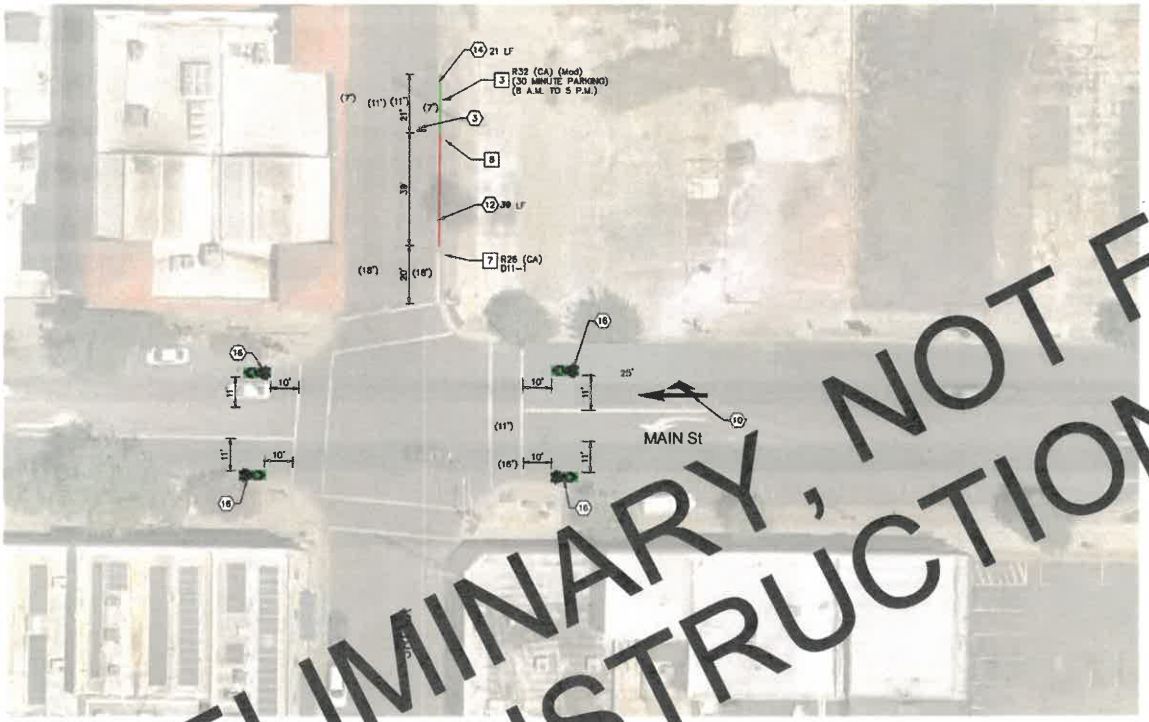
WOODLAND TRANSIT CENTER RELOCATION

PREPARED FOR
YOLO TRANSPORTATION DISTRICT
CITY OF WOODLAND STATE OF CALIFORNIA

LICENSED PROFESSIONAL
LIC PROF 1
STATE LICENSE NUMBER
LIC PROF 1 #
DATE ____

SIGNING & STRIPING

SHEET N M E\
SS-02
SHEET 10 OF 13



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LICENSED PROFESSIONAL

LIC PROF 1

STATE LICENSE NUMBER LIC PROF 1 #

DATE: ___

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SS-03

SHEET 11 OF 13

PRELIMINARY NOT FOR CONSTRUCTION
TO BE COMPLETED AT 65%

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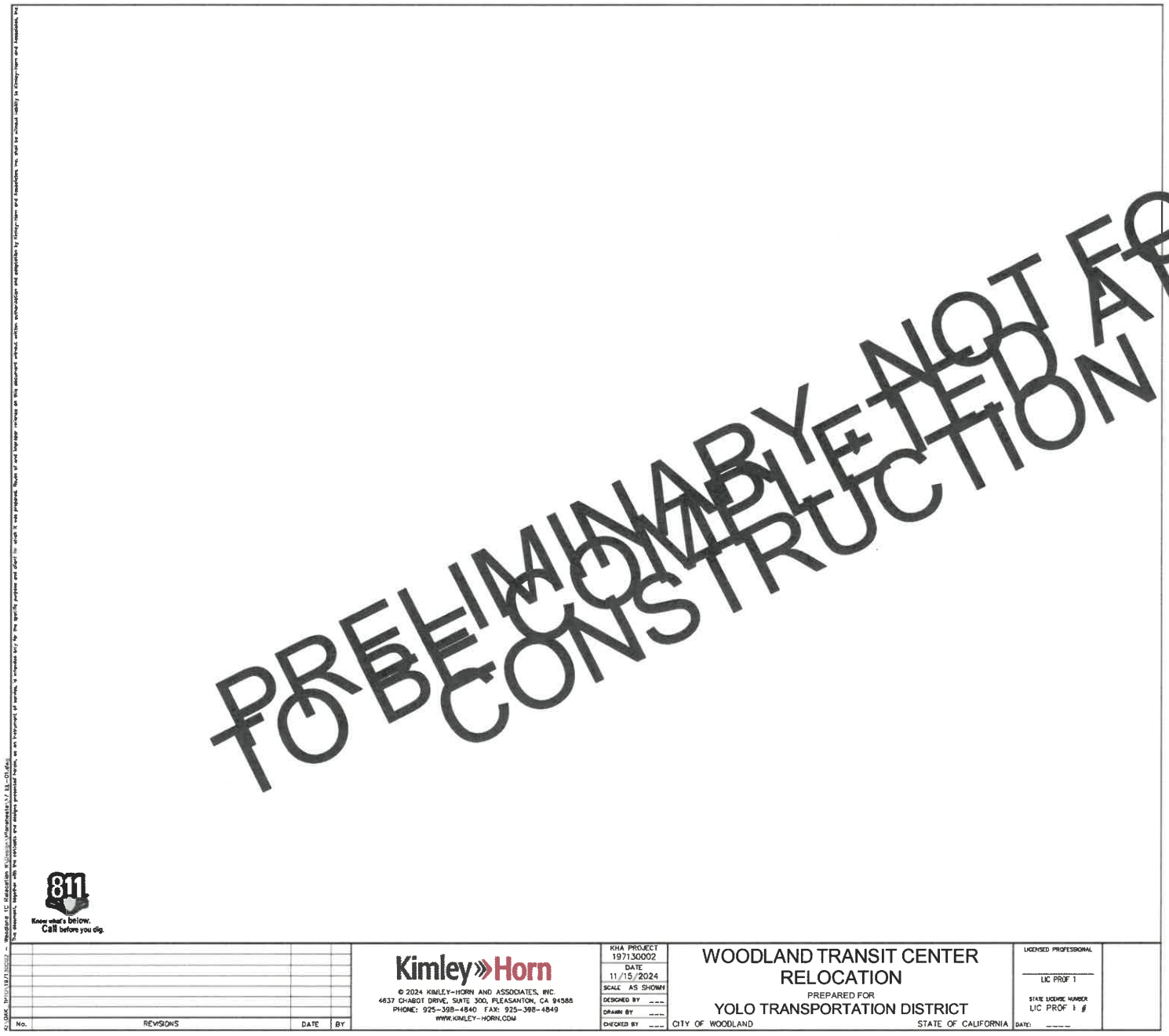
SHEET 12 OF 13



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LIC PROF 1 #
DATE: _____

RRFB LAYOUT

SHEET NAME
EE-01
SHEET 13 OF 13

Yolo County Transportation District

Woodland Transit Center Relocation

Engineer's Opinion of Probable Construction Costs

30% Plans - November 2024

Created by: Devin Wilder
Checked by: Adam Dankberg

Item	Description	Estimated Quantity	Unit	Unit Price	Total
1	Prepare Storm Water Pollution Prevention Plan	1	LS	$10,000.00	$10,000
2	Construction Area Signs	1	LS	$5,000.00	$5,000
3	Construction Staking and Layout	1	LS	$17,600.00	$17,600
4	Construction Waste Management	1	LS	$10,700.00	$10,700
5	Traffic Control System	1	LS	$17,600.00	$17,600
6	Clearing & Grubbing	1	LS	$5,000.00	$5,000
7	Remove Concrete (Curb, Curb & Gutter, Sidewalk, Median, Decorative Crosswalk)	2,340	SF	$10.00	$23,400
8	Remove Traffic Stripes, Pavement Markings, and Delineators	1	LS	$5,000.00	$5,000
9	Roadway Excavation	215	CY	$140.00	$30,100
10	Class II Aggregate Base	140	CY	$70.00	$9,800
11	Hot Mix Asphalt (Type A)	150	TON	$200.00	$30,000
12	Minor Concrete (Curb)	215	LF	$70.00	$15,050
13	Minor Concrete (Curb and Gutter)	125	LF	$95.00	$11,875
14	Minor Concrete (Bus Shelter Pad)	4	CY	$1,000.00	$4,000
15	Minor Concrete (Bus Pad)	39	CY	$2,000.00	$78,000
16	Minor Concrete (Curb Ramp)	3	CY	$2,000.00	$6,000
17	Minor Concrete (Sidewalk)	13	CY	$1,000.00	$13,000
18	Minor Concrete (Median)	2	CY	$800.00	$1,600
19	Detectable Warning Surface	105	SF	$40.00	$4,200
20	Striping	1	LS	$72,000.00	$72,000
21	Striping (South Side between 1st and 2nd)	1	LS	$26,000.00	$26,000
22	Signing	1	LS	$10,000.00	$10,000
23	Adjust Traffic Signal Pull Box to Grade	1	EA	$200.00	$200
24	Reconstruct Storm Drain Curb Inlet	1	EA	$8,000.00	$8,000
25	Relocate Mailboxes (Fed-ex & UPS)	2	EA	$1,000.00	$2,000
26	Shelter & Bench	3	EA	$30,000.00	$90,000
27	Trash Can	3	EA	$300.00	$900
28	Lighting Installation at Court St and 2nd St	1	LS	$80,000.00	$80,000
29	RRFB Installation at Court St and 2nd St	1	LS	$75,000.00	$75,000
				TOTAL CONSTRUCTION COSTS	$768,495
				Mobilization @ 10%	$76,850
				TOTAL WITH MOBILIZATION	$845,400
				CM @ 12%	$101,448
				Engineering Support During Construction @ 3%	$25,362
				TOTAL SOFT COSTS	$972,300
				Contingency @ 20%	$194,460
				TOTAL WITH CONTINGENCY	$1,166,800
				TOTAL PROJECT	$1,166,800

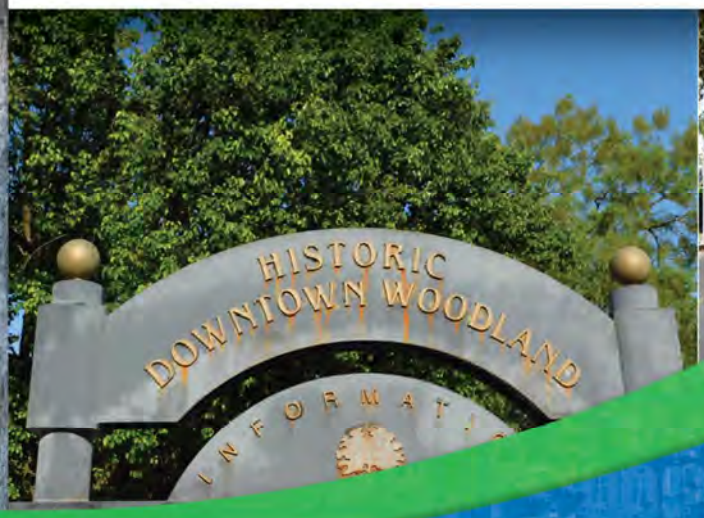
The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known.

Yolobus
Yolo County Transportation District

Woodland Transit Center Relocation

Traffic and Safety Analysis Memorandum

August 2024



Prepared by:

Kimley»Horn

Table of Contents

Attachments

List of Figures

List of Tables

Overview

Yolo County Transit District (YoloTD) is seeking to relocate the Woodland Transit Center, currently located in the County Fair Mall parking lot in southern Woodland, to a more central and convenient location in downtown Woodland. An overview of Downtown Woodland, its transportation network, and the proposed transit center are shown in Figure 1.

This memorandum builds on work previously completed as part of the Woodland Transit Center Relocation Study (Study), including the Transit Facility Needs (July 2023) and Alternatives Analysis (November 2023) memoranda. The work to date for the Study resulted in a preliminary preferred alternative for a relocated, on-street transit center in Downtown Woodland, along Court Street between 1st Street and 3rd Street. Figure 3 illustrates the preliminary design for the preferred alternative.

This memorandum summarizes the analysis of the transportation conditions within Downtown Woodland where the new transit center will be located. This includes a safety analysis, traffic analysis, and circulation improvements. The area reviewed for this analysis (Study Area) includes the Downtown portion of Woodland between 3rd Street and College Street, with a specific focus on the intersections most strongly associated with bus diversion as a result of the re-located Woodland Transit Center. The intersections within the Study Area are listed below and shown in Figure 1:

- Main Street and 3rd Street
- Main Street and College Street
- Court Street and College Street
- Court Street and 2nd Street
- Court Street and 3rd Street

A summary of the safety analysis, traffic analysis, and circulation improvements is provided below and discussed further in the subsequent sections.

Safety Analysis: Review of collision history within the Study Area for the most recent five years

- There were no visible, severe, or fatal collisions in the past 5 years within the Study Area.
- Potential improvements may be considered to mitigate existing traffic safety concerns at certain areas with common collision patterns.
- The re-location of the transit center is not anticipated to have any adverse effects to safety conditions in Downtown Woodland.

Circulation Improvements: Roadway improvements required to address any safety and/or turning challenges:

- Minor roadway striping modifications and parking relocations are required at Main Street and 3rd Street to accommodate bus turns. An additional very minor striping modification is required at Court Street and West Street (outside of the analysis study area) to accommodate bus turns.

Traffic Analysis: Summarizes an operational analysis for the intersections in the Study Area

- Modifications to lane geometry and addition of bus traffic does not have an adverse effect on the performance of the intersections in the Study Area.

Figure 1: Downtown Woodland – Transportation Overview

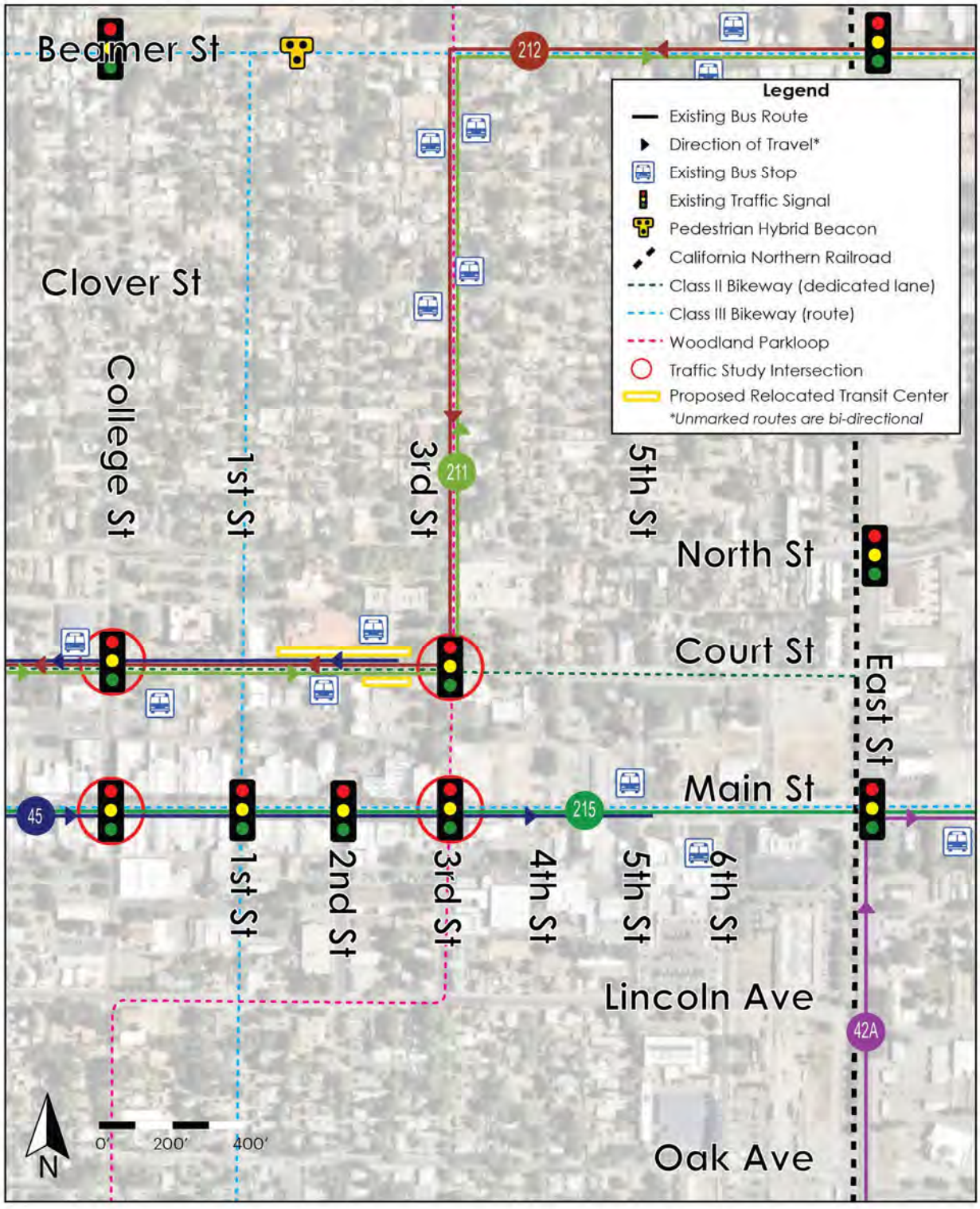
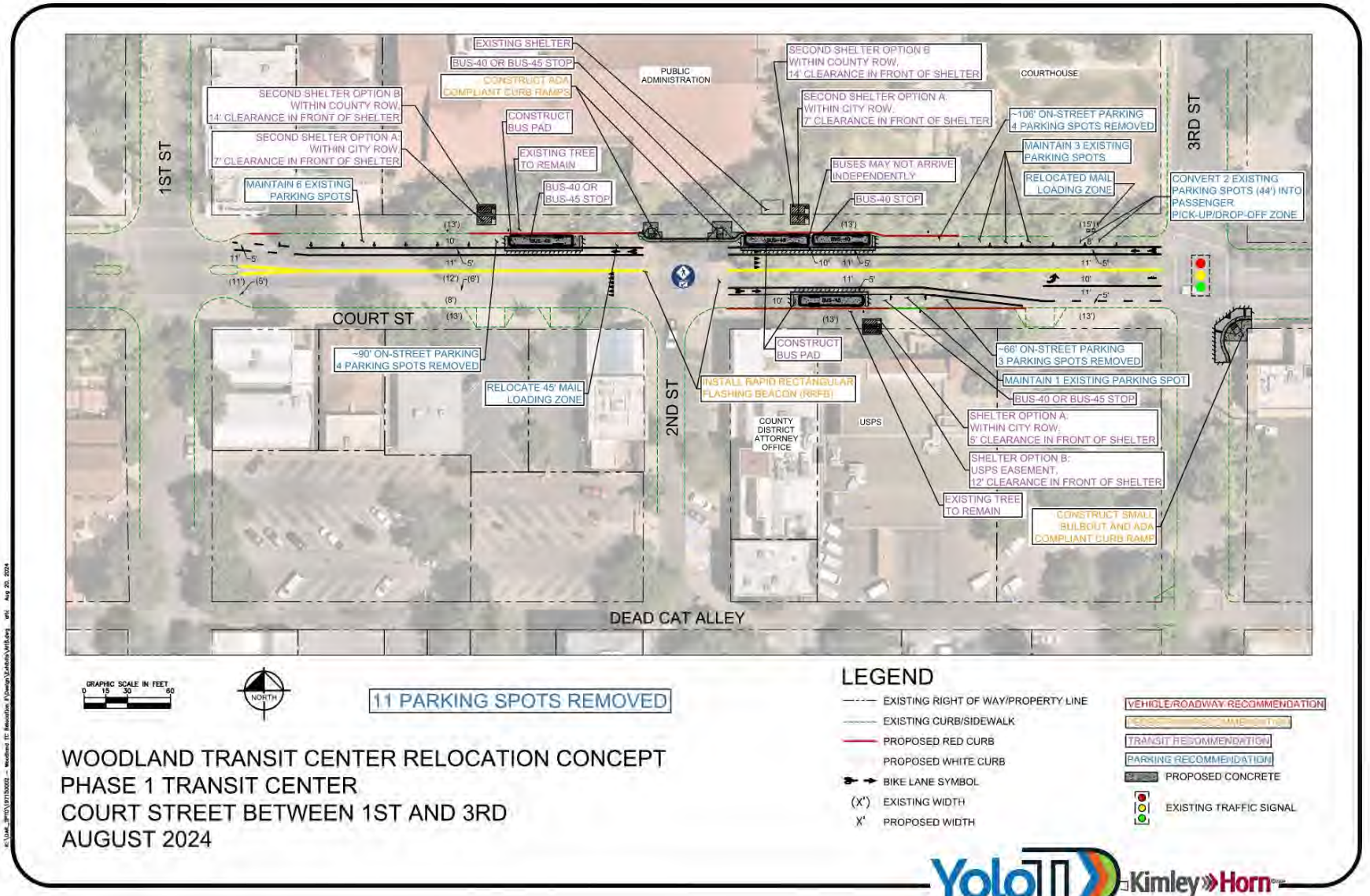


Figure 2: Preferred Transit Center Alternative



Safety Analysis

Collision data recorded within the Study Area between January 1st, 2019 and December 31st, 2023 was collected from the Transportation Injury Mapping System, which uses data from the Statewide Integrated Traffic Records System (SWITRS). Injuries suffered by involved parties are classified into one of five categories (from most to least severe): fatal injury, severe injury, other visible injury, complaints of pain, and property damage only.

Table 1 shows the number of collisions, by injury severity, which occurred within the Study Area. There was a total of 21 collisions recorded within the Study Area between 2019 and 2023. Of these, more than 85% of collisions resulted in property damage only. The other three collisions resulted in complaints of pain for one or both parties involved. There were no visible, severe, or fatal injuries resulting from any of the collisions during the time period.

Table 1: Collision Severity Summary

Collision Severity	Occurrences
Property Damage Only	18
Complaint of Pain	3
Other Visible Injury	0
Severe Injury	0
Fatal Injury	0
TOTAL	21

Table 2 provides a summary of the parties involved with each collision observed during the 5-year time period. Of the 21 collisions observed in the Study Area, 16 involved only vehicles, three involved a pedestrian, and two involved a cyclist.

Table 2: Parties Involved Summary

Involved With	Occurrences
Automobile Only	16
Pedestrian	3
Bicyclist	2
TOTAL	21

Figure 3 shows the severity, location, and parties involved in the 21 collisions recorded within the Study Area. Collisions were observed near each of the intersections in the Study Area, with the highest concentration of collisions occurring at or around the intersection of Main Street and 3rd Street. Collisions along Court Street were less frequent than along Main Street, and only one collision was observed to have occurred on one of the north-south streets.

At the intersection of Main Street and 3rd Street, the most common collision factors attributed to these collisions were traffic signal and sign violations, which were attributed to three collisions. Of the nine collisions observed at or near this intersection, six were classified as broadside collisions. One of the collisions involved

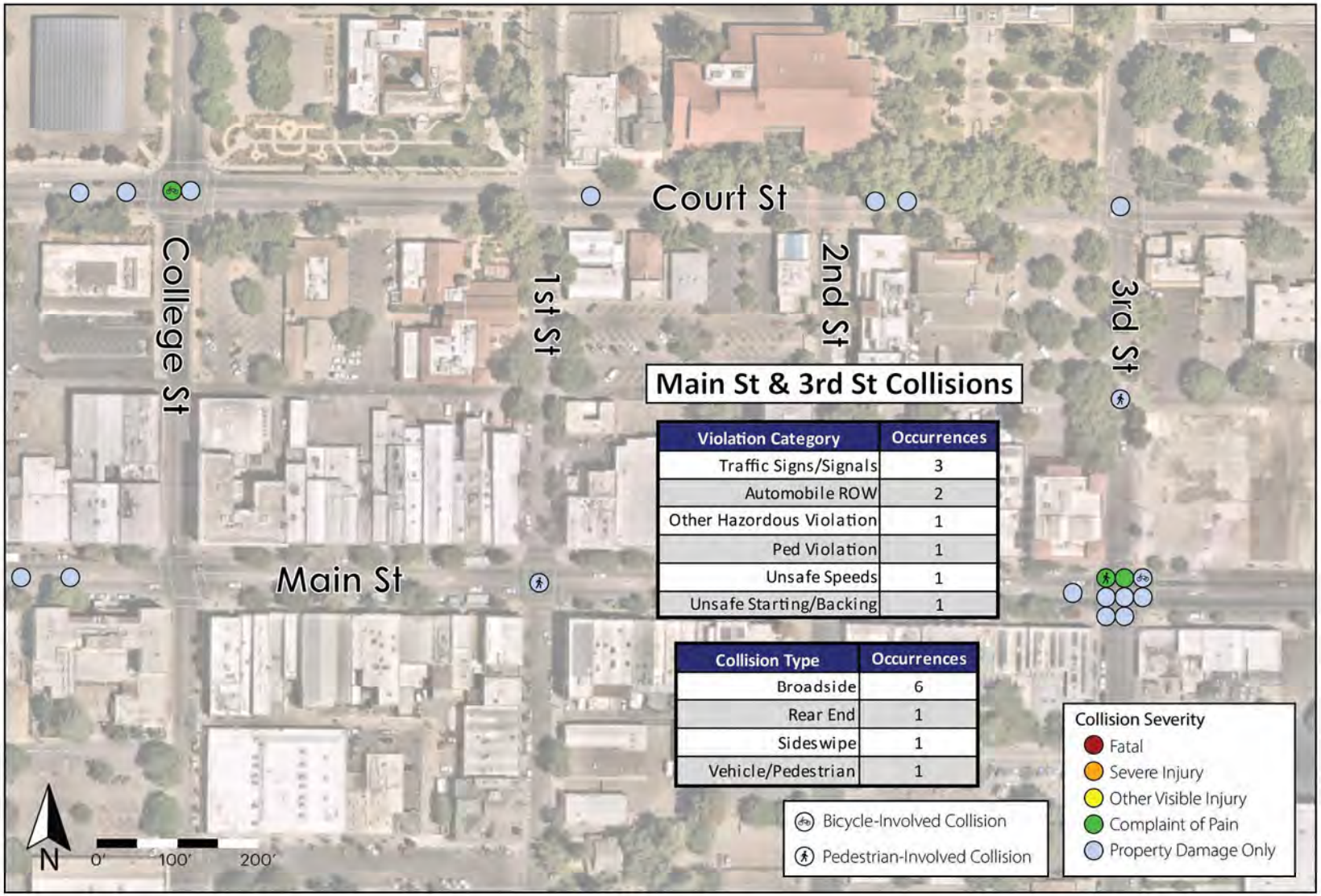
a pedestrian and was attributed to a pedestrian violation, and another one involved a bicycle and was attributed to an automobile right-of-way violation.

Notably, based on a review of the party information for the collisions observed at Main Street and 3rd Street, the majority of the incidents occur when southbound or northbound vehicles proceed through the intersection on a red light, ultimately colliding with an eastbound or westbound through vehicle. Several strategies can be considered to improve operational safety given the proposed routing:

- Consider increasing southbound yellow or all-red time
- Consider warning signage for vehicles at intersection approaches, particularly the eastbound and southbound approaches given the tight building setback at the northwest corner
- Consider concave mirrors on the intersection approaches to improve sight distance
- Consider striping high visibility crosswalks at pedestrian crossings

While these strategies could be considered and implemented to mitigate the existing collision pattern at the intersection of Main Street and 3rd Street, it should be noted that the proposed volume additions given the new bus routing are minor, with only a small percentage increase of the approach volumes for any leg within the Study Area. Review of the safety data did not reveal any significantly dangerous collision patterns, and the re-location of the transit center is not anticipated to have any adverse effects to safety conditions in Downtown Woodland.

Figure 3: Study Area Collision Summary



Circulation Improvements

Given the proposed re-routing associated with the relocation of the Woodland Transit Center, this analysis reviewed the existing geometry and configuration of the adjacent transportation infrastructure to evaluate its ability to accommodate new bus trips. Each of Woodland's six bus routes will now be routed to the new transit center on Court Street, meaning several routes will be traveling along segments and making new turns at intersections that previously accommodated less bus traffic. Overall proposed routing for the system is shown in Figure 4, while Figure 5 depicts the bus routing proposed for Downtown Woodland.

Existing City of Woodland bus schedules were reviewed to project the approximate level of peak hour bus traffic during the peak hour periods of traffic analysis. During the AM (7:45-8:45 AM) and PM (4:15-5:15 PM) peak hours, the trip breakdown by route is shown in Table 3. Further discussion of the volumes and peak hour determinations is provided in the following section.

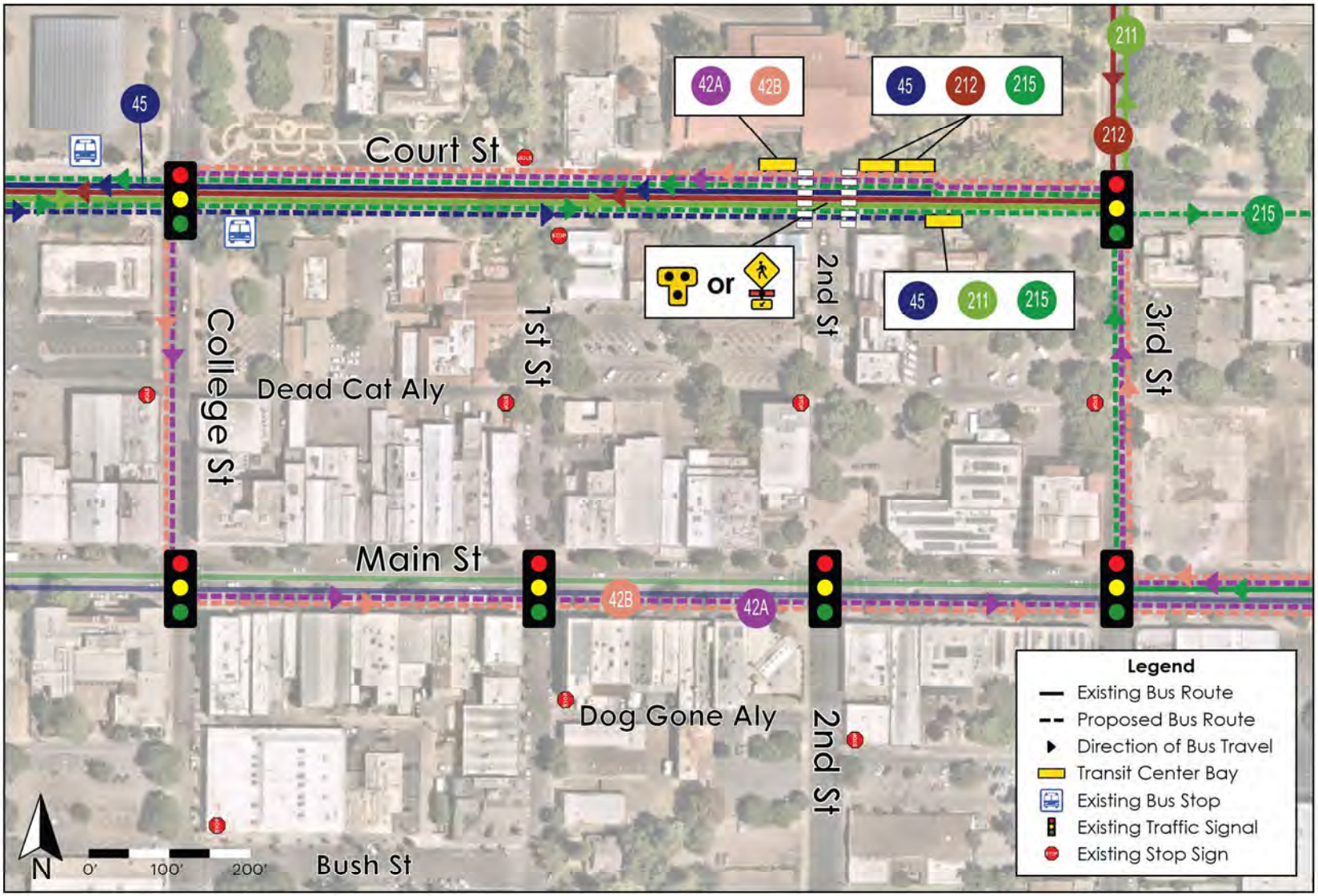
Table 3: Peak Hour Bus Trips

Route	AM Peak	PM Peak
42A	2	2
42B	2	2
45	0	0
211	1	1
212	1	1
215 EB	2	0
215 WB	1	1
Total	9	7

Local routes 211 and 212 are currently routed through Court Street at the location of the new transit center; however, the volumes were added for this analysis to ensure a more conservative capacity result. Bus volumes are shown in Figure 6.

Figure 4: Proposed Bus Routing

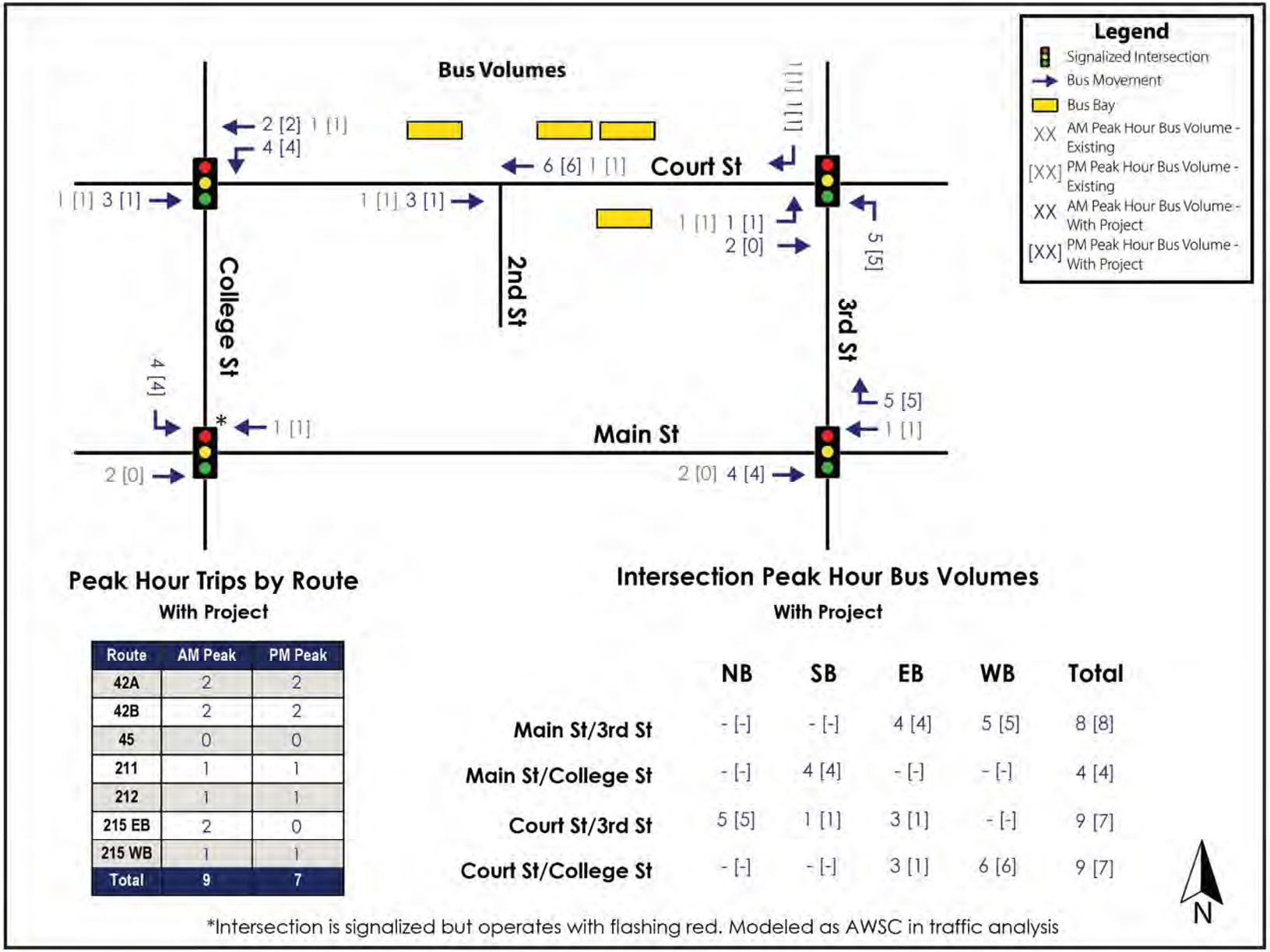
Figure 5: Proposed Bus Routing – Downtown Woodland



Kimley»Horn

61

Figure 6: Bus Volumes - Proposed Transit Center Relocation



Peak Hour Trips by Route
With Project

Route	AM Peak	PM Peak
42A	2	2
42B	2	2
45	0	0
211	1	1
212	1	1
215 EB	2	0
215 WB	1	1
Total	9	7

Intersection Peak Hour Bus Volumes
With Project

	NB	SB	EB	WB	Total
Main St/3rd St	- [-]	- [-]	4 [4]	5 [5]	8 [8]
Main St/College St	- [-]	4 [4]	- [-]	- [-]	4 [4]
Court St/3rd St	5 [5]	1 [1]	3 [1]	- [-]	9 [7]
Court St/College St	- [-]	- [-]	3 [1]	6 [6]	9 [7]

*Intersection is signalized but operates with flashing red. Modeled as AWSC in traffic analysis

Turn Analysis

Given the modifications to bus routes to travel through the Study Area, a turning template analysis was completed for several relevant movements. Figures created for this analysis are provided as Attachment A: Turning Template Analysis. Overall, the analysis found that most of the new turn movements would be accommodated by the existing geometry. Some minor modifications are required as detailed below:

- Main Street and 3rd Street
  - Remove low-volume westbound right-turn lane
  - Remove four parallel parking spaces on the northern leg of 3rd Street (two on each side). Provide up to four new parking spaces on the northern side of the westbound approach of Main Street
  - Stripe painted median on the northern leg of 3rd Street
- Court Street and West Street (intersection not included in Study Area but will accommodate new bus turns with the SBL)
  - Move stop bar for WBL back 4' from crosswalk

Traffic Analysis

Methodology

Synchro 12 analysis software was used to analyze the intersections in the Study Area:

- Main Street and 3rd Street (signal)
- Main Street and College Street (signal – red flashing (AWSC))
- Court Street and College Street (signal)
- Court Street and 2nd Street (uncontrolled)
- Court Street and 3rd Street (signal)

This analysis used standard measures of effectiveness to evaluate the existing and proposed network, including level of service (LOS) and queueing. The LOS of an intersection is a quantitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and an intersection that is operating at or near its functional capacity. The LOS standards used for this evaluation are based on the Transportation and Circulation Element of the City of Woodland General Plan Update (2017), which establish the minimum acceptable level of service for intersections in Woodland is LOS D (Policy 3.A.1). Levels of service for this study were determined using methods defined in the Highway Capacity Manual 6th Edition (HCM) and the Synchro 12 analysis software.

The HCM includes procedures for analyzing side-street stop-controlled (SSSC), all-way stop-controlled (AWSC), and signalized intersections. The intersection of Court Street and 2nd Street operates as an uncontrolled intersection with 2nd Street as an ingress-only approach; this intersection was therefore not analyzed. While there are four signalized intersections in the Study Area, the intersection of Main Street and College Street currently operates with flashing red phases, according to the City of Woodland. This intersection is therefore analyzed as an all-way stop-controlled intersection. Signalized LOS thresholds and analysis are used for the remaining signalized intersections of Main Street/3rd Street, Court Street/3rd Street, and Court Street/College Street. LOS in this analysis is defined as a function of average control delay for the intersection. Table 4 relates the operational characteristics associated with each LOS category for signalized and unsignalized intersections.

Table 4: Intersection Level of Service Definitions

LOS	Description	Signalized (seconds)	Unsignalized (seconds)
A	Free flow with no delays. Users are virtually unaffected by others in the traffic stream.	delay ≤ 10.0	delay ≤ 10.0
B	Stable traffic. Traffic flows smoothly with few delays.	10.0 < delay ≤ 20.0	10.0 < delay ≤ 15.0
C	Stable flow but the operation of individual users becomes affected by other vehicles. Modest delays.	20.0 < delay ≤ 35.0	15.0 < delay ≤ 25.0
D	Approaching unstable flow. Operation of individual users becomes significantly affected by other vehicles. Delays may be more than one cycle during peak hours.	35.0 < delay ≤ 55.0	25.0 < delay ≤ 35.0
E	Unstable flow with operating conditions at or near the capacity level. Long delays and vehicle queuing.	55.0 < delay ≤ 80.0	35.0 < delay ≤ 50.0
F	Forced or breakdown flow that causes reduced capacity. Stop and go traffic conditions. Excessively long delays and vehicle queuing.	delay > 80	delay > 50

Scenarios

The purpose of this traffic analysis is to evaluate the existing operations of the Study Area intersections without and with the new transit center, including lane reductions at certain approaches and the addition of bus volumes. This analysis considers two analysis scenarios:

- Existing No-Build (2024)
- Build (2024)

Lane configurations for both scenarios are shown in Figure 7 and Figure 8. The proposed adjustments to the lane configurations result from the safety and turning analysis discussed previously.

Figure 7: Existing Lane Configuration

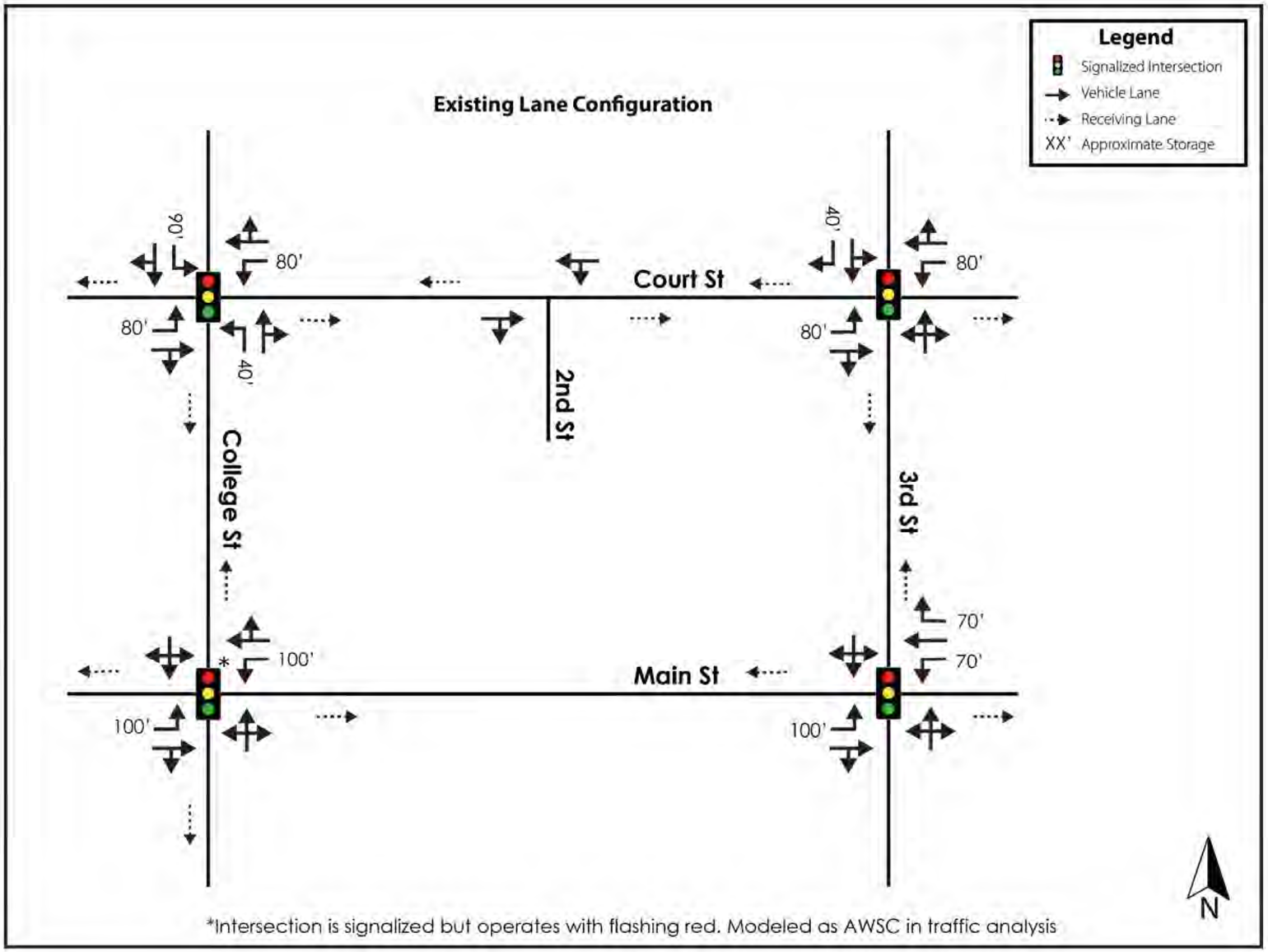
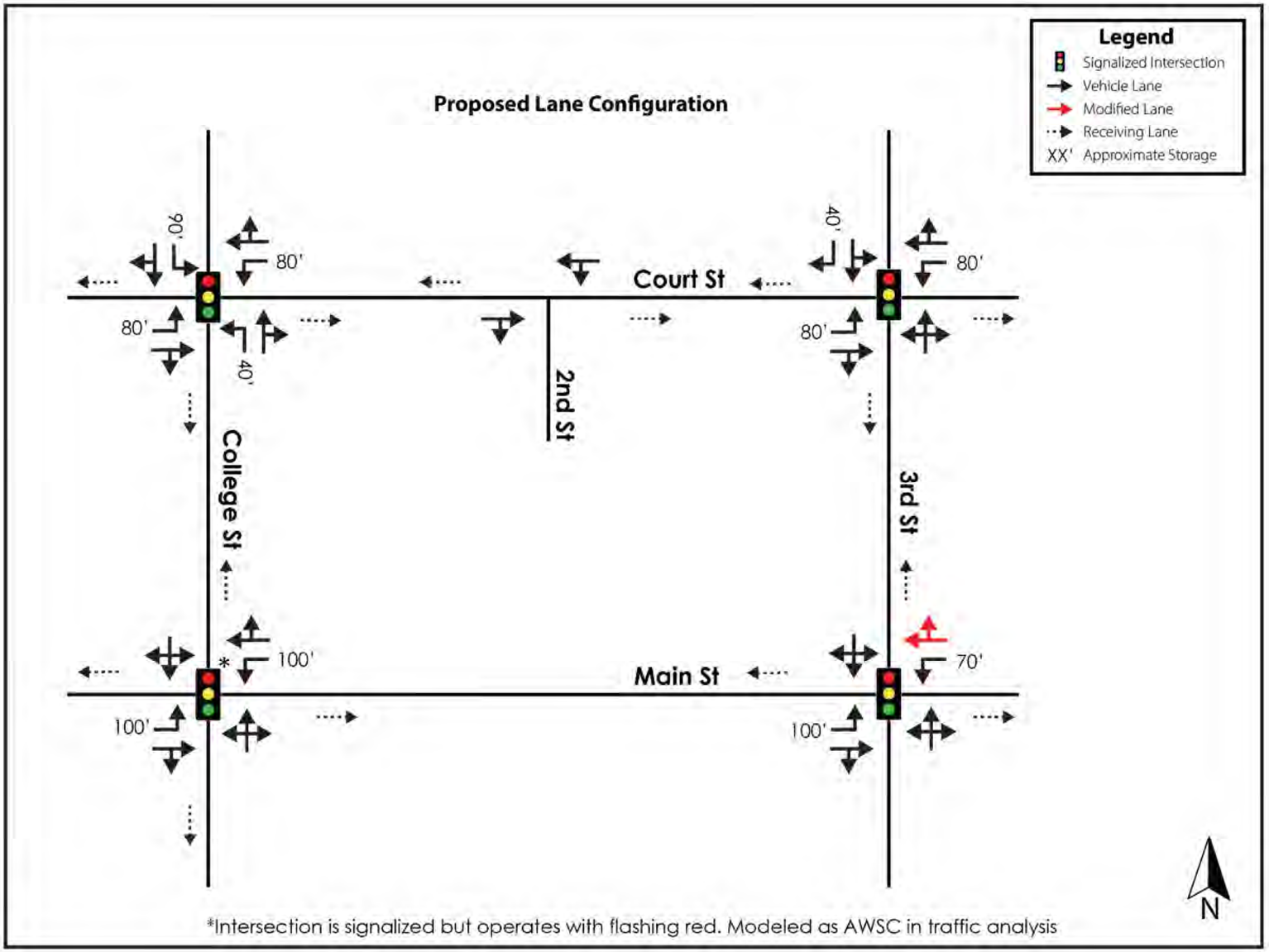


Figure 8: Proposed Lane Configuration



Existing No-Build Scenario

VOLUME DATA

Traffic counts for the analysis were collected for the AM (7-9 AM) peak period and the PM (4-6 PM) peak period on May 5th, 2024. Turning movement counts, which included vehicle, pedestrian, and bicycle counts, were collected for each of the following intersections:

- Main Street and 3rd Street
- Main Street and College Street
- Court Street and College Street
- Court Street and 2nd Street
- Court Street and 3rd Street

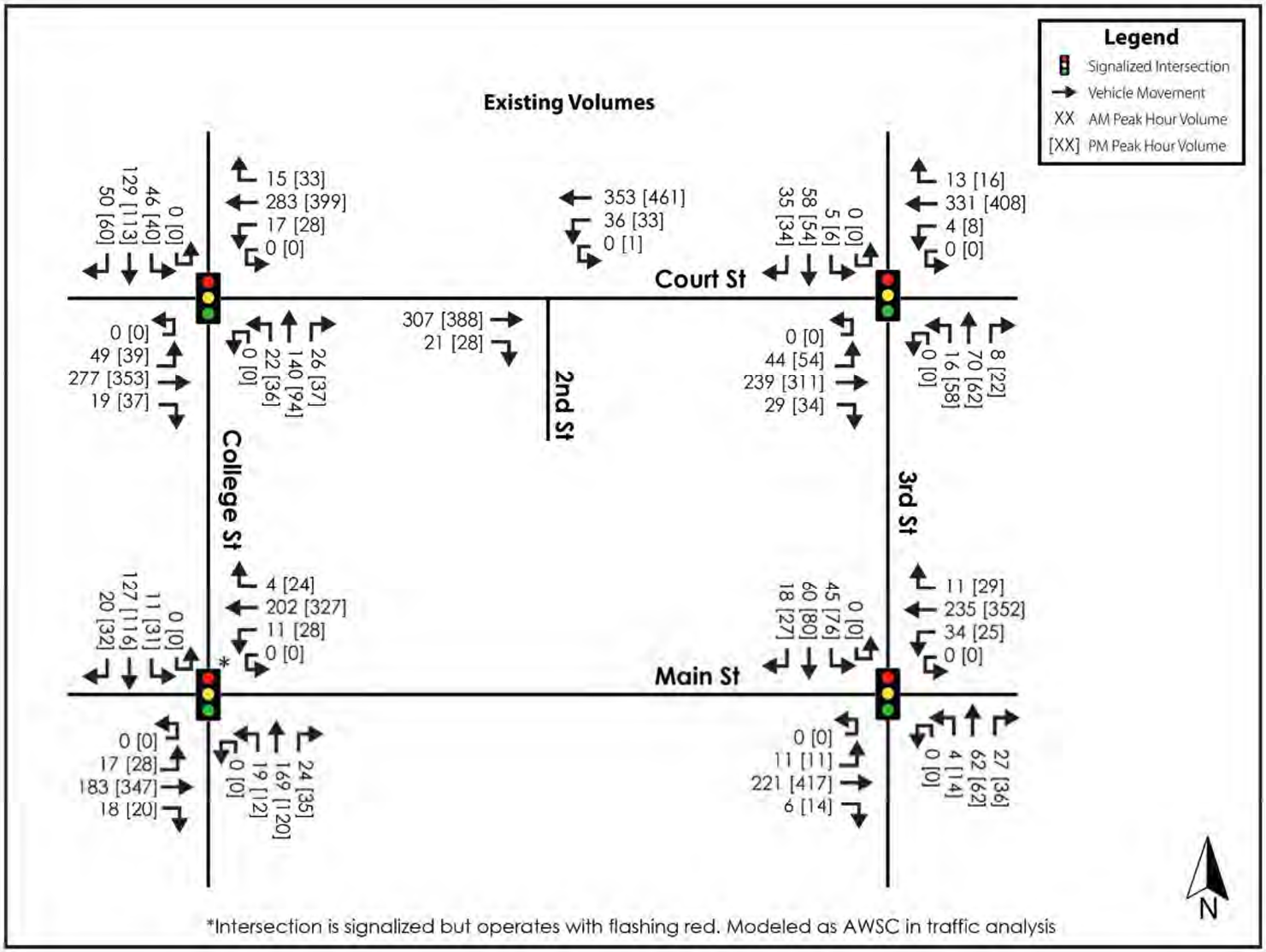
Upon reviewing the volume data, the AM peak hour was determined to be 7:45-8:45 AM, while the PM peak hour occurs between 4:15-5:15 PM. Peak hours were determined based on the hour with the highest volume levels across the five intersections. Volume balancing was not performed between intersections given the presence of driveways and other outlets present. Given that both scenarios evaluate conditions based on the existing volumes, no growth factor or other volume adjustments were performed. Peak hour factors were calculated by approach.

Volumes for the study area intersections are shown in Figure 9. Raw data sheets for the turning movement counts can be viewed in Attachment B: Turning Movement Counts.

SIGNAL TIMING

Timing data for the signalized intersections within the Study Area were provided by the City of Woodland (City). As previously noted, based on communication with the City, the intersection of Main Street and College Street has been operating under a flashing red configuration since the COVID-19 pandemic, meaning it operates as a four-way stop. The other intersections were programmed based on the timing sheets and coordination plans provided by the City. Timings and splits for each signal phase were not adjusted or optimized between the no-build and build scenarios.

Figure 9: Existing Volumes



Build Scenario

VOLUME DATA

Under Build conditions, volumes are adjusted slightly to account for the newly diverted bus trips that will occur, and heavy vehicle percentages at these movements are calculated and modeled based on the addition of bus movements.

The team reviewed current routes, proposed changes given the new transit center, and schedules for each of the lines to gain a better understanding of the impacts of the new bus demand on the surrounding transportation network. New proposed routes were coordinated through several discussions with YoloTD and the City of Woodland.

SIGNAL TIMING

As previously noted, timing data for the signalized intersections within the Study Area were provided by the City of Woodland. Timings and splits for each signal phase were not adjusted or optimized between the no-build and build scenarios.

LEFT-TURN PHASING

Two left-turn movements that would be utilized by the proposed bus routing currently operate with permissive left-turn phasing. Specifically, buses would utilize permissive left-turn phases for the northbound left movement at the intersection of 3rd Street/Court Street and the westbound left movement at the intersection at College Street/Court Street. Both industry guidance on left-turn phasing and operational findings support that permissive phasing is appropriate with the additional bus activity.

The California MUTCD provides guidance for left-turn phasing in Section 4D.19.4, which states[1], "since separate signal phases for protected left turns will reduce the green time available for other phases, alternate means of handling left turn conflicts should be considered first". Section 4D.19.4 provides some guidance for when permissive left-turn phasing should be considered for conversion to protected phasing:

- Collisions - Five or more left turn collisions for a particular left turn movement during a recent 12-month period – not met within study area
- Delay - Left-turn delay of one or more vehicles, which were waiting at the beginning of the green interval and are still remaining in the left turn lane after at least 80% of the total number of cycles for one hour – not met within study area
- Volume - At new intersections where only estimated volumes are available, the following criteria may be used. For pre-timed signal or a background-cycle-controlled actuated signal, a left turn volume of more than two vehicles per approach per cycle for a peak hour; or for a traffic-actuated signal, 50 or more left turning vehicles per hour in one direction with the product of the turning and conflicting through traffic during the peak hour of 100,000 or more – not met within study area as the only location with 50 left-turns in an hour would have a product of turning and conflict through volumes far below the threshold.
- Miscellaneous. Other factors that might be considered include but are not limited to: impaired sight distance due to horizontal or vertical curvature, or where there are a large percentage of buses and trucks – not met within study area, as additional bus volumes with the Project are minimal and would not represent a large percentage of overall traffic.

[1] California Manual on Uniform Traffic Control Devices, 2014 Edition (Revision 8)

Additionally, several studies suggest the general volume threshold for considering a form of protected phasing for left-turn movements is 2 vehicles per signal cycle (Bonneson and Fontaine (2001) Guidelines for Selection of Left Turn Phasing Mode and Qi, Yu and Yu (2010) Guidelines for Selection of Left Turn Phasing Mode). With more than 60 actuated cycles per hour at each intersection, both intersections have fewer than one vehicle per signal cycle. Therefore, neither permissive left-turn movement within the Study Area meets this threshold.

As a second reference document, the National Cooperative Highway Research Program's (NCHRP) Left Turn Treatments at Intersections (Pline 1996) includes the following detailed guidelines for selection of protected-only phasing:

- Use protected-only phasing when any two of the following conditions are met:
    - Peak 15-minute flow rate for the left-turning traffic is greater than 320 vph – not met within study area
    - Peak 15-minute flow rate for the opposing traffic is greater than 1100 vph – not met within study area
    - Opposing traffic speed limit is greater than or equal to 45 mph – not met within study area
    - Two or more left-turn lanes – not met within study area
- Use protected-only phasing when any one of the following conditions is met:
    - Where four or more lanes must be crossed by the left-turn movement – not met within study area
    - Three opposing traffic lanes and the opposing speed is 45 mph or greater – not met within study area
    - Left-turn volume exceeds 320 vph and the percent of heavy vehicles exceeds 2.5 – not met within study area
    - Opposing volume exceeds 1,100 vph and the percent of heavy left-turn vehicles in the left-turn traffic exceeds 2.5 – not met within study area
    - Seven or more left-turn related accidents within 3 years for protected/permissive option – not met within study area
    - More than 260 left-turn related conflicts per million vehicles squared for protected/permissive option – not met within study area
    - The average stopped delay to left-turning traffic is acceptable for protected-only phasing and it is the engineering judgment that more left-turn accidents would occur under the protected/permissive option – not met within study area

While the above criteria are not specific to bus operations, anecdotally, there are countless examples throughout the region and Northern California of buses operating through permissive left-turn movements; one such example is Sacramento Regional Transit (SacRT) Route 11 turning from Riverside Boulevard to Broadway in Sacramento. Based on the available guidance, modification of the permissive left-turn signal operation at 3rd & Court and College & Court is not recommended to accommodate the proposed bus operations.

Traffic Analysis Results

Table 5 displays results from the analysis of the existing traffic network, while Table 6 displays the results from the Build analysis, which includes modifications to some lane configurations and additional bus volumes. Results presented from the analysis include average delay and 95th percentile queue by intersection movement. Storage lengths for turn-lane pockets are shown to compare anticipated queue lengths to the existing capacity of the turn lane. Changes in delay and 95th percentile queue are shown in Table 6 under categories labeled with "Δ" to show the difference between existing and build conditions. Capacity reports for the analysis can be found in Attachment C: Synchro Capacity Reports.

Table 5: Existing No-Build Level of Service and Delay (s)

Int. #	Int. Name	Movement	Storage	Existing			
				Weekday AM Peak Hour		Weekday PM Peak Hour	
				LOS (Delay (s))	95th Q	LOS (Delay (s))	95th Q
1	Main Street & 3rd Street	NBL	-	C (25.2)	71'	C (25.6)	85'
		NBT	-	C (25.2)	71'	C (25.6)	85'
		NBR	-	C (25.2)	71'	C (25.6)	85'
		SBL	-	D (36.6)	102'	E (58.9)	158'
		SBT	-	D (36.6)	102'	E (58.9)	158'
		SBR	-	D (36.6)	102'	E (58.9)	158'
		EBL	100'	A (7.8)	11'	A (8.6)	11'
		EBT	-	A (8.0)	112'	B (10.9)	226'
		EBR	-	A (8.0)	112'	B (10.9)	226'
		WBL	70	A (7.7)	24'	A (8.8)	20'
		WBT	-	A (8.0)	116'	B (10.1)	180'
		WBR	70'	A (8.0)	0'	A (1.3)	7'
		Overall	-	B (14.8)		C (20.3)	
2	Main Street & College Street	NBL	-	C (15.2)	78'	B (13.8)	38'
		NBT	-	C (15.2)	78'	B (13.8)	38'
		NBR	-	C (15.2)	78'	B (13.8)	38'
		SBL	-	B (12.3)	38'	C (15.6)	58'
		SBT	-	B (12.3)	38'	C (15.6)	58'
		SBR	-	B (12.3)	38'	C (15.6)	58'
		EBL	100'	B (10.1)	3'	B (10.5)	5'
		EBT	-	B (13.8)	50'	C (24.1)	138'
		EBR	-	B (13.8)	50'	C (24.1)	138'
		WBL	100'	A (10.0)	3'	B (10.5)	5'
		WBT	-	B (13.7)	48'	C (23.6)	135'
		WBR	-	B (13.7)	48'	C (23.6)	135'
		Overall	-	B (13.8)		C (20.1)	
3	Court Street & College Street	NBL	40'	A (8.0)	12'	A (8.3)	20'
		NBT	-	A (9.8)	55'	A (7.9)	47'
		NBR	-	A (9.8)	55'	A (7.9)	47'
		SBL	90'	A (8.4)	23'	A (8.3)	21'
		SBT	-	A (8.3)	63'	A (8.0)	59'
		SBR	-	A (8.3)	63'	A (8.0)	59'
		EBL	80'	A (8.2)	24'	A (7.3)	21'
		EBT	-	B (10.7)	105'	A (8.7)	143'
		EBR	-	B (10.7)	105'	A (8.7)	143'
		WBL	80'	A (7.3)	11'	A (7.1)	16'
		WBT	-	B (10.3)	108'	A (9.2)	163'
		WBR	-	B (10.3)	108'	A (9.2)	163'
		Overall		A (9.8)		A (8.6)	
4	Court Street & 3rd Street	NBL	-	B (11.9)	48'	B (18.5)	92'
		NBT	-	B (11.9)	48'	B (18.5)	92'
		NBR	-	B (11.9)	48'	B (18.5)	92'
		SBL	-	B (11.3)	36'	B (16.2)	46'
		SBT	-	B (11.3)	36'	B (16.2)	46'
		SBR	40'	A (5.4)	15'	A (2.9)	10'
		EBL	80'	B (16.5)	37'	B (19.6)	49'
		EBT	-	A (7.5)	109'	A (6.8)	139'
		EBR	-	A (7.5)	109'	A (6.8)	139'
		WBL	80'	B (18.2)	8'	C (23.1)	15'
		WBT	-	B (10.5)	150'	B (12.6)	212'
		WBR	-	B (10.5)	150'	B (12.6)	212'
		Overall		A (9.9)		B (12.0)	

Table 6: Build Level of Service, Delay (s) and Change (Δ)

Int. #	Int. Name	Movement	Storage	Build							
				Weekday AM Peak Hour				Weekday PM Peak Hour			
				LOS (Delay (s))	Delay Δ	95th Q	Q Δ (ft)	LOS (Delay (s))	Delay Δ	95th Q	Q Δ (ft)
1	Main Street & 3rd Street	NBL	-	C (25.2)	0	71'	0	C (25.1)	-0.5	84'	-1
		NBT	-	C (25.2)	0	71'	0	C (25.1)	-0.5	84'	-1
		NBR	-	C (25.2)	0	71'	0	C (25.1)	-0.5	84'	-1
		SBL	-	D (36.6)	0	102'	0	E (56.7)	-2.2	156'	-2
		SBT	-	D (36.6)	0	102'	0	E (56.7)	-2.2	156'	-2
		SBR	-	D (36.6)	0	102'	0	E (56.7)	-2.2	156'	-2
		EBL	100'	A (7.8)	0	11'	0	A (8.7)	0.1	11'	0
		EBT	-	A (8.1)	0.1	114'	2	B (11.2)	0.3	232'	6
		EBR	-	A (8.1)	0.1	114'	2	B (11.2)	0.3	232'	6
		WBL	70	A (7.7)	0	24'	0	A (8.9)	0.1	20'	0
		WBT	-	A (8.1)	0.1	124'	8	B (10.6)	0.5	201'	21
		WBR	-	A (8.1)	0.1	124'	124	B (10.6)	9.3	201'	194
		Overall	-	B (14.8)				C (20.2)			
2	Main Street & College Street	NBL	-	C (15.8)	0.6	83'	5	B (14.0)	0.2	38'	0
		NBT	-	C (15.8)	0.6	83'	5	B (14.0)	0.2	38'	0
		NBR	-	C (15.8)	0.6	83'	5	B (14.0)	0.2	38'	0
		SBL	-	B (13.7)	1.4	45'	7	C (16.6)	1	65'	7
		SBT	-	B (13.7)	1.4	45'	7	C (16.6)	1	65'	7
		SBR	-	B (13.7)	1.4	45'	7	C (16.6)	1	65'	7
		EBL	100	B (10.2)	0.1	3'	0	B (10.6)	0.1	5'	0
		EBT	-	B (14.1)	0.3	53'	3	C (24.9)	0.8	168'	30
		EBR	-	B (14.1)	0.3	53'	3	C (24.9)	0.8	168'	30
		WBL	100'	B (10.2)	0.2	3'	0	B (10.6)	0.1	5'	0
		WBT	-	B (14.0)	0.3	50'	2	C (24.3)	0.7	165'	30
		WBR	-	B (14.0)	0.3	50'	2	C (24.3)	0.7	165'	30
		Overall	-	B (14.4)				C (20.8)			
3	Court Street & College Street	NBL	40'	A (8.0)	0	12'	0	A (8.3)	0	20'	0
		NBT	-	A (9.9)	0.1	55'	0	A (7.9)	0	47'	0
		NBR	-	A (9.9)	0.1	55'	0	A (7.9)	0	47'	0
		SBL	90'	A (8.4)	0	23'	0	A (8.3)	0	21'	0
		SBT	-	A (8.4)	0.1	63'	0	A (8.0)	0	59'	0
		SBR	-	A (8.4)	0.1	63'	0	A (8.0)	0	59'	0
		EBL	80'	A (8.2)	0	24'	0	A (7.3)	0	21'	0
		EBT	-	A (10.9)	0.2	107'	2	A (8.7)	0	143'	0
		EBR	-	A (10.9)	0.2	107'	2	A (8.7)	0	143'	0
		WBL	80'	A (7.7)	0.4	14'	3	A (7.3)	0.2	18'	2
		WBT	-	A (10.4)	0.1	110'	2	A (9.2)	0	164'	1
		WBR	-	A (10.4)	0.1	110'	2	A (9.2)	0	164'	1
		Overall		A (9.9)				A (8.6)			
4	Court Street & 3rd Street	NBL	-	B (12.6)	0.7	51'	3	B (19.3)	0.8	98'	6
		NBT	-	B (12.6)	0.7	51'	3	B (19.3)	0.8	98'	6
		NBR	-	B (12.6)	0.7	51'	3	B (19.3)	0.8	98'	6
		SBL	-	B (11.6)	0.3	37'	1	B (16.5)	0.3	47'	1
		SBT	-	B (11.6)	0.3	37'	1	B (16.5)	0.3	47'	1
		SBR	40'	A (5.6)	0.2	16'	1	A (3.1)	0.2	11'	1
		EBL	80'	B (16.9)	0.4	38'	1	C (20.0)	0.4	50'	1
		EBT	-	A (7.4)	-0.1	110'	1	A (6.8)	0	138'	-1
		EBR	-	A (7.4)	-0.1	110'	1	A (6.8)	0	138'	-1
		WBL	80'	B (18.7)	0.5	8'	0	C (23.8)	0.7	16'	1
		WBT	-	A (10.5)	0	156'	6	B (12.7)	0.1	213'	1
		WBR	-	A (10.5)	0	156'	6	B (12.7)	0.1	213'	1
		Overall		B (10.1)				B (12.1)			

EXISTING NO-BUILD RESULTS

As shown in Table 5, the analysis results for the Existing scenario show that the intersections generally operate with low levels of delay and queues that can be accommodated by existing turn-lane storage. Delays for most of the intersection approaches are less than 20 seconds resulting in LOS A or LOS B. The intersections along Main Street tend to experience more delay and longer queues than the intersections along Court Street; however, capacity is not exceeded at any approach and delay levels still tend to be relatively low.

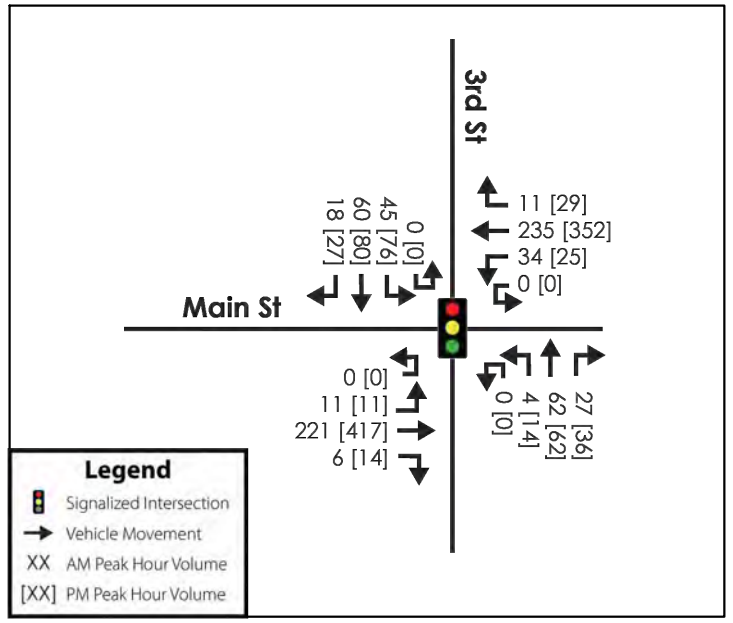
The largest delays are projected at the intersection of Main Street and 3rd Street. This intersection notably features a leading pedestrian interval (LPI) that provides a head start to pedestrians upon push-button actuation. The intersection is still anticipated to operate at acceptable levels. The southbound approach is projected to operate with around 35 seconds of delay in the AM peak hour and around a minute of delay in the PM peak hour. Aside from the southbound approach of 3rd Street at Main Street, all of the other approaches at intersections within the Study Area are anticipated to operate with less than 30 seconds of delay during either peak hour scenario.

BUILD RESULTS

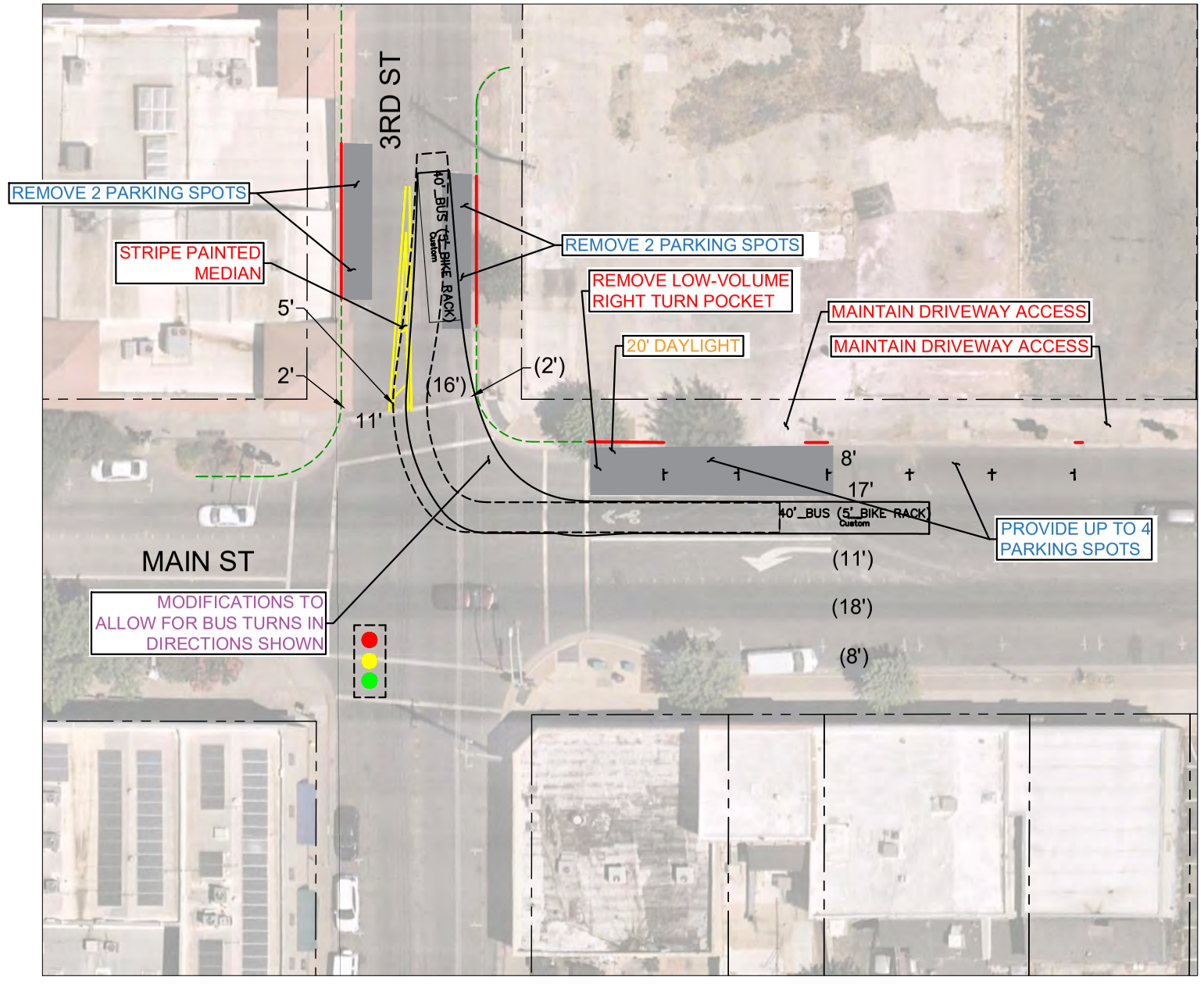
As shown in Table 6, the analysis results for the Build scenario show that, with the changes to lane configurations and addition of bus volumes, the intersections are expected to continue to operate at acceptable levels with delay changes of less than one second and queue length changes of one vehicle or less. Delays for most of the intersection approaches are anticipated to remain at generally low levels, with level of service generally unchanged. Similar to the Existing conditions, the intersections along Main Street tend to experience more delay and longer queues than the intersections along Court Street, but none of the intersections are projected to experience significant adverse impacts as a result of the implementation of the new transit center.

The largest anticipated increase in delay is projected at the westbound approach of Main Street and 3rd Street with the elimination of the westbound right-turn lane under the Build configuration. However, even with this increased delay, the intersection is anticipated to operate at acceptable levels per City of Woodland General Plan policies with the implementation of the new transit center.

ATTACHMENT A: TURNING TEMPLATE ANALYSIS



Existing Volumes



0 NET CHANGE IN PARKING

GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

WOODLAND TRANSIT CENTER RELOCATION CONCEPT
BUS TURN MODIFICATIONS
3RD ST AND MAIN ST
JUNE 2024

LEGEND

- EXISTING RIGHT OF WAY/PROPERTY LINE
- EXISTING CURB/SIDEWALK
- PROPOSED CURB/SIDEWALK
- PROPOSED RED CURB
- PROPOSED WHITE CURB
- BIKE LANE SYMBOL
- (X') EXISTING WIDTH
- X' PROPOSED WIDTH

- VEHICLE/ROADWAY RECOMMENDATION
- PEDESTRIAN RECOMMENDATION
- BICYCLE RECOMMENDATION
- TRANSIT RECOMMENDATION
- PARKING ANALYSIS
- PROPOSED CONCRETE
- EXISTING TRAFFIC SIGNAL

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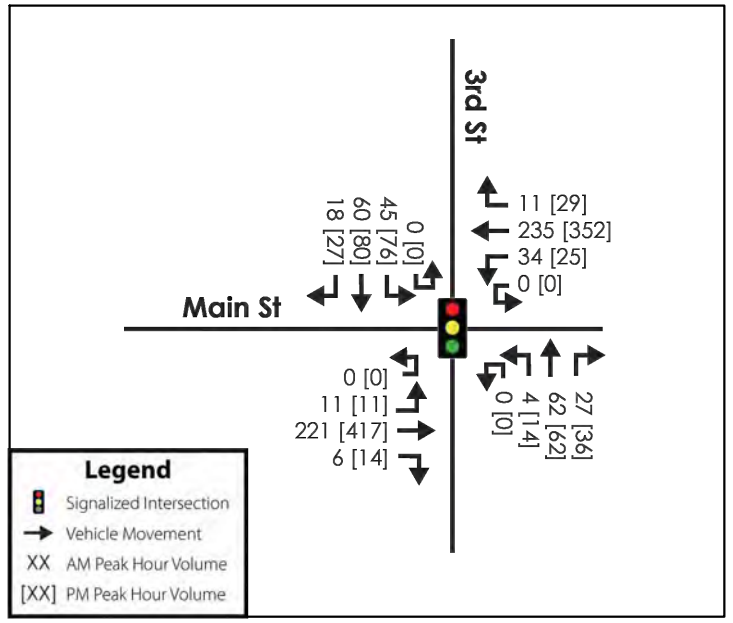
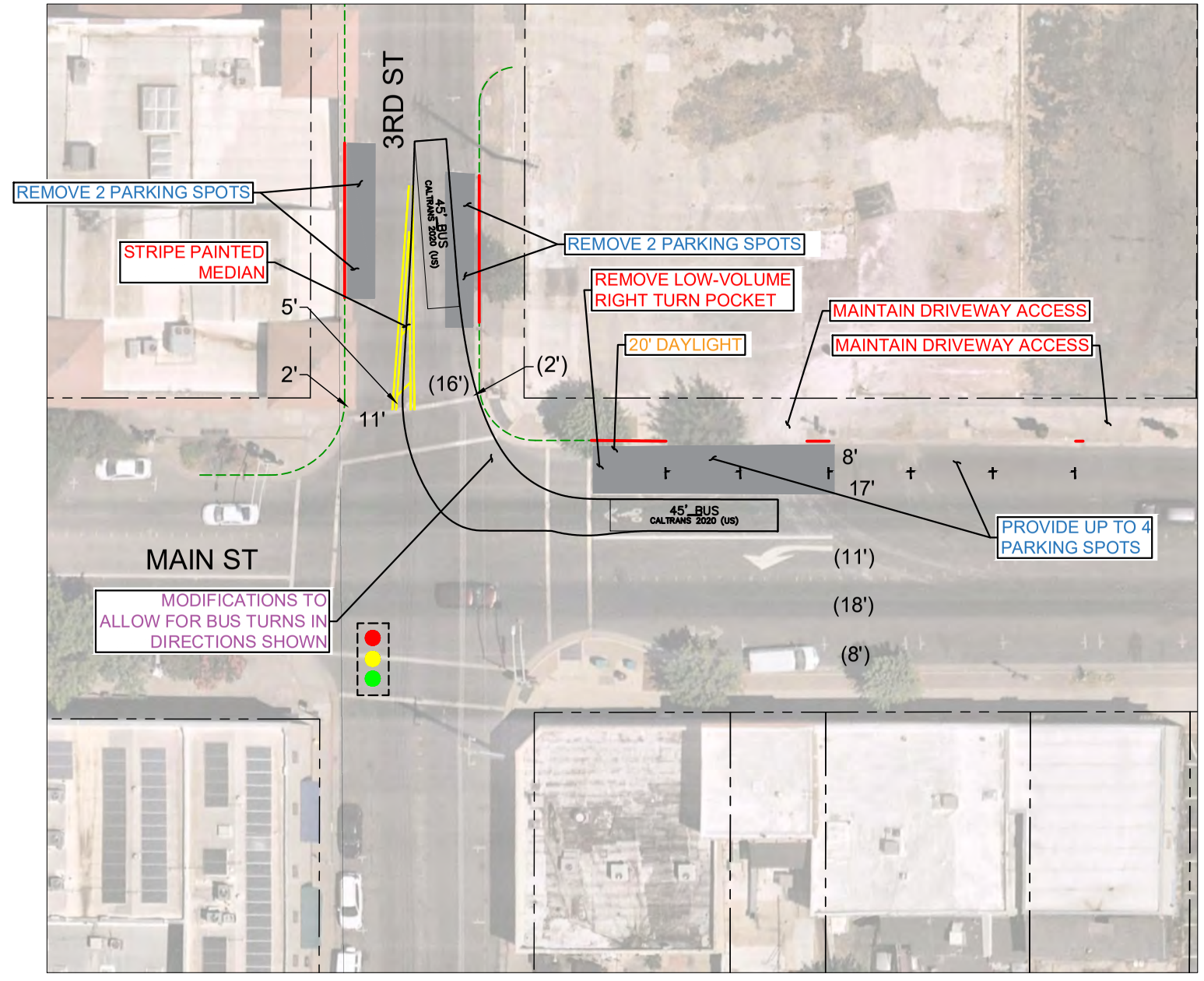


Existing Volumes



0 NET CHANGE IN PARKING

GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

WOODLAND TRANSIT CENTER RELOCATION CONCEPT
BUS TURN MODIFICATIONS
3RD ST AND MAIN ST - BUS 45
JUNE 2024

LEGEND

- EXISTING RIGHT OF WAY/PROPERTY LINE
- EXISTING CURB/SIDEWALK
- PROPOSED CURB/SIDEWALK
- PROPOSED RED CURB
- PROPOSED WHITE CURB
- BIKE LANE SYMBOL
- (X') EXISTING WIDTH
- X' PROPOSED WIDTH

- VEHICLE/ROADWAY RECOMMENDATION
- PEDESTRIAN RECOMMENDATION
- BICYCLE RECOMMENDATION
- TRANSIT RECOMMENDATION
- PARKING ANALYSIS
- PROPOSED CONCRETE
- EXISTING TRAFFIC SIGNAL

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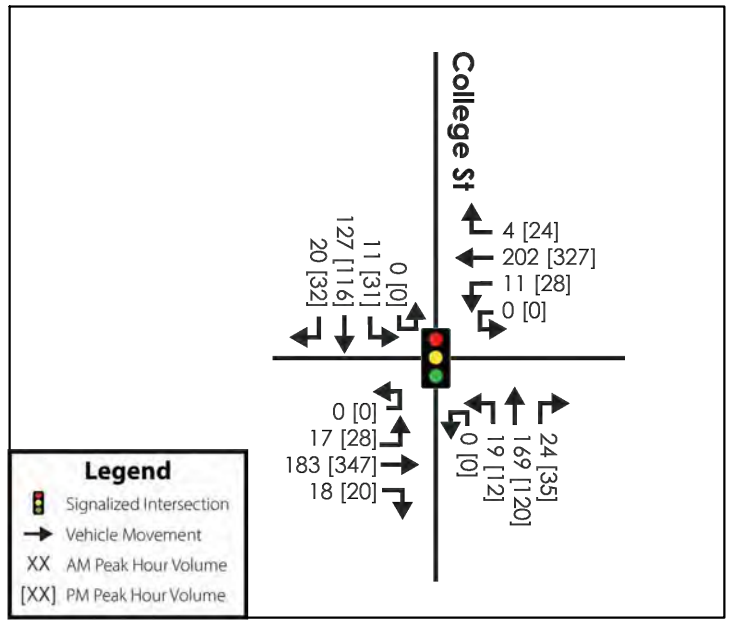
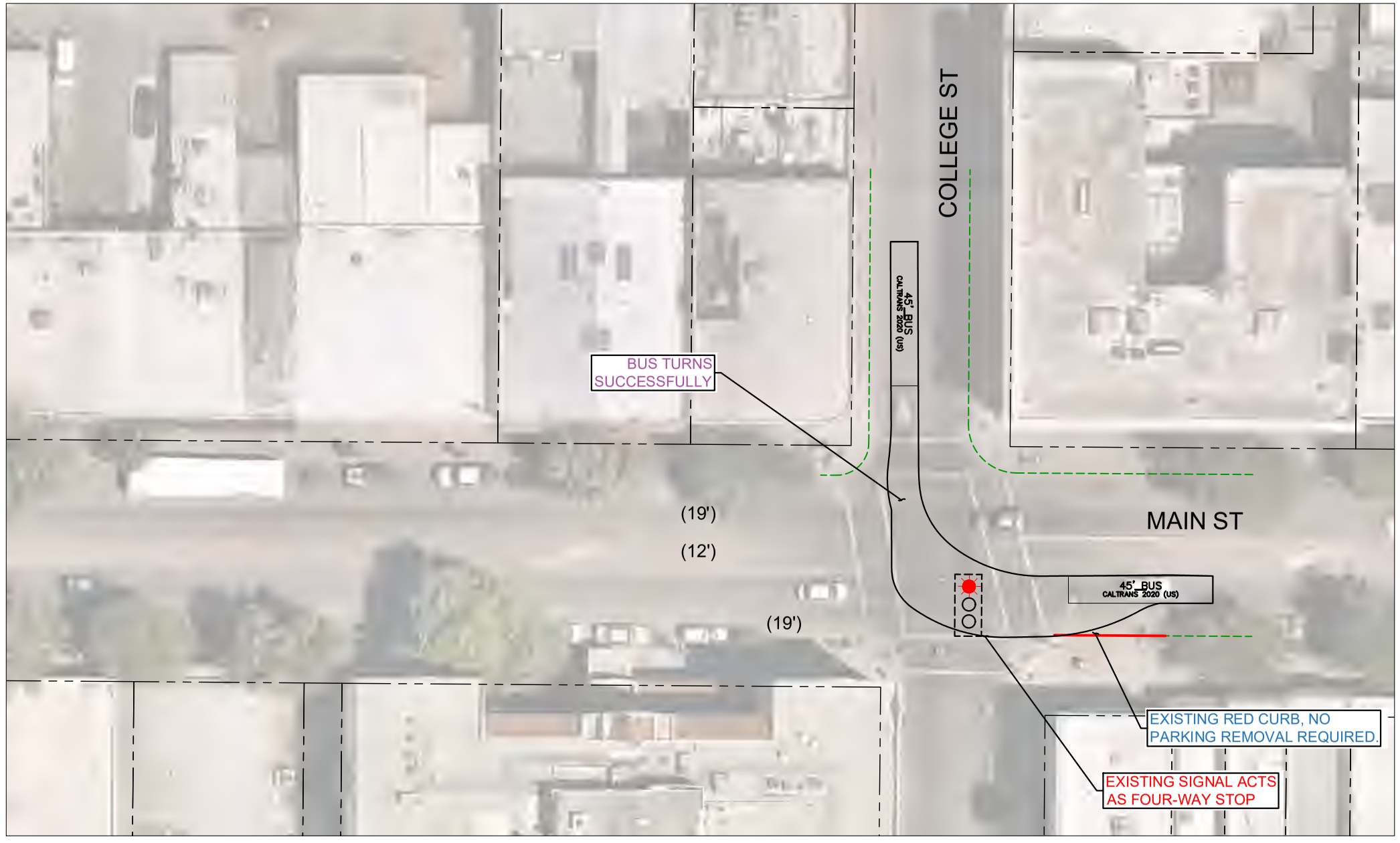


Existing Volumes



GRAPHIC SCALE IN FEET
0 10 20 40

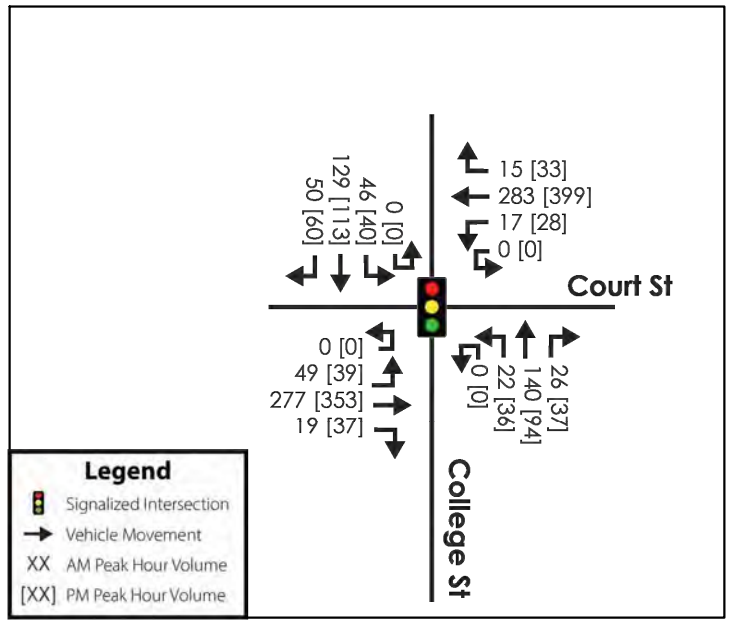
NORTH

WOODLAND TRANSIT CENTER RELOCATION CONCEPT
BUS TURN MODIFICATIONS
COLLEGE ST AND MAIN ST - BUS 45
JUNE 2024

LEGEND

- EXISTING RIGHT OF WAY/PROPERTY LINE
- EXISTING CURB/SIDEWALK
- PROPOSED CURB/SIDEWALK
- PROPOSED RED CURB
- PROPOSED WHITE CURB
- BIKE LANE SYMBOL
- (X') EXISTING WIDTH
- X' PROPOSED WIDTH

- VEHICLE/ROADWAY RECOMMENDATION
- PEDESTRIAN RECOMMENDATION
- BICYCLE RECOMMENDATION
- TRANSIT RECOMMENDATION
- PARKING ANALYSIS
- PROPOSED CONCRETE
- EXISTING TRAFFIC SIGNAL



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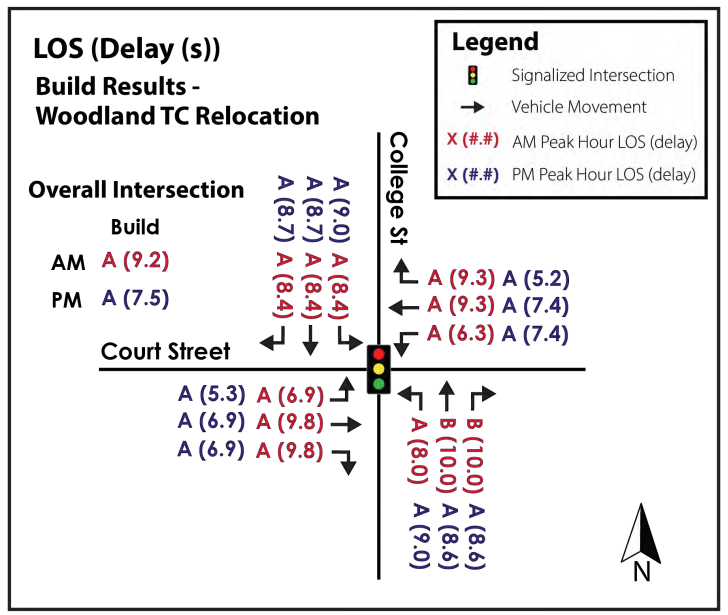

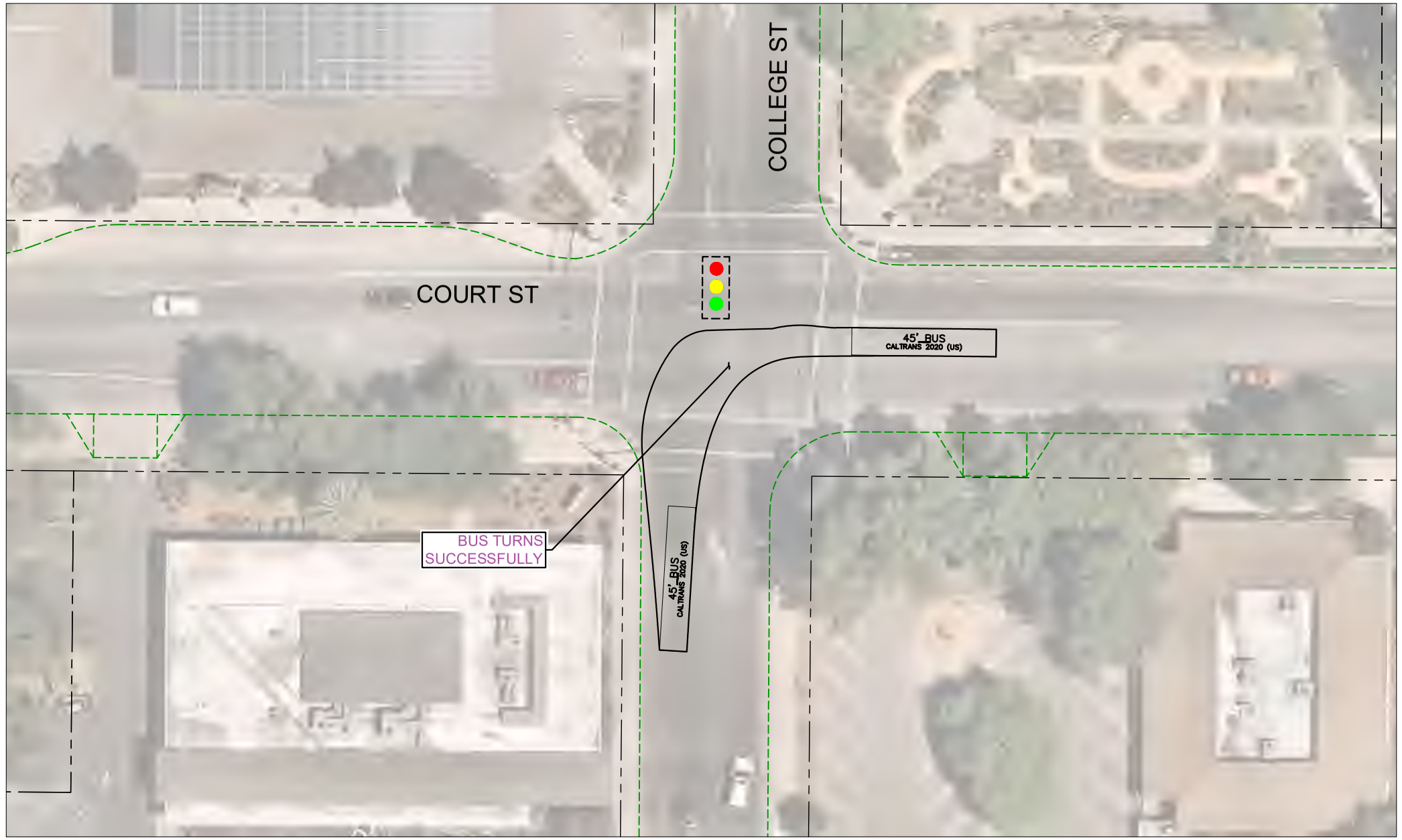

GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

WOODLAND TRANSIT CENTER RELOCATION CONCEPT
BUS TURN MODIFICATIONS
COLLEGE ST AND COURT ST - BUS 45
JUNE 2024

LEGEND

- EXISTING RIGHT OF WAY/PROPERTY LINE
- EXISTING CURB/SIDEWALK
- PROPOSED CURB/SIDEWALK
- PROPOSED RED CURB
- PROPOSED WHITE CURB
- BIKE LANE SYMBOL
- (X') EXISTING WIDTH
- X' PROPOSED WIDTH

- VEHICLE/ROADWAY RECOMMENDATION
- PEDESTRIAN RECOMMENDATION
- BICYCLE RECOMMENDATION
- TRANSIT RECOMMENDATION
- PARKING ANALYSIS
- PROPOSED CONCRETE
- EXISTING TRAFFIC SIGNAL

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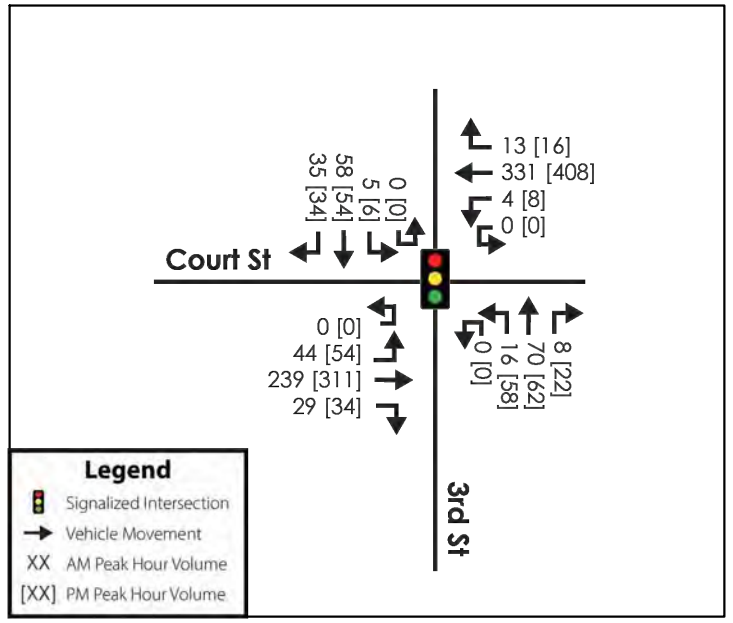

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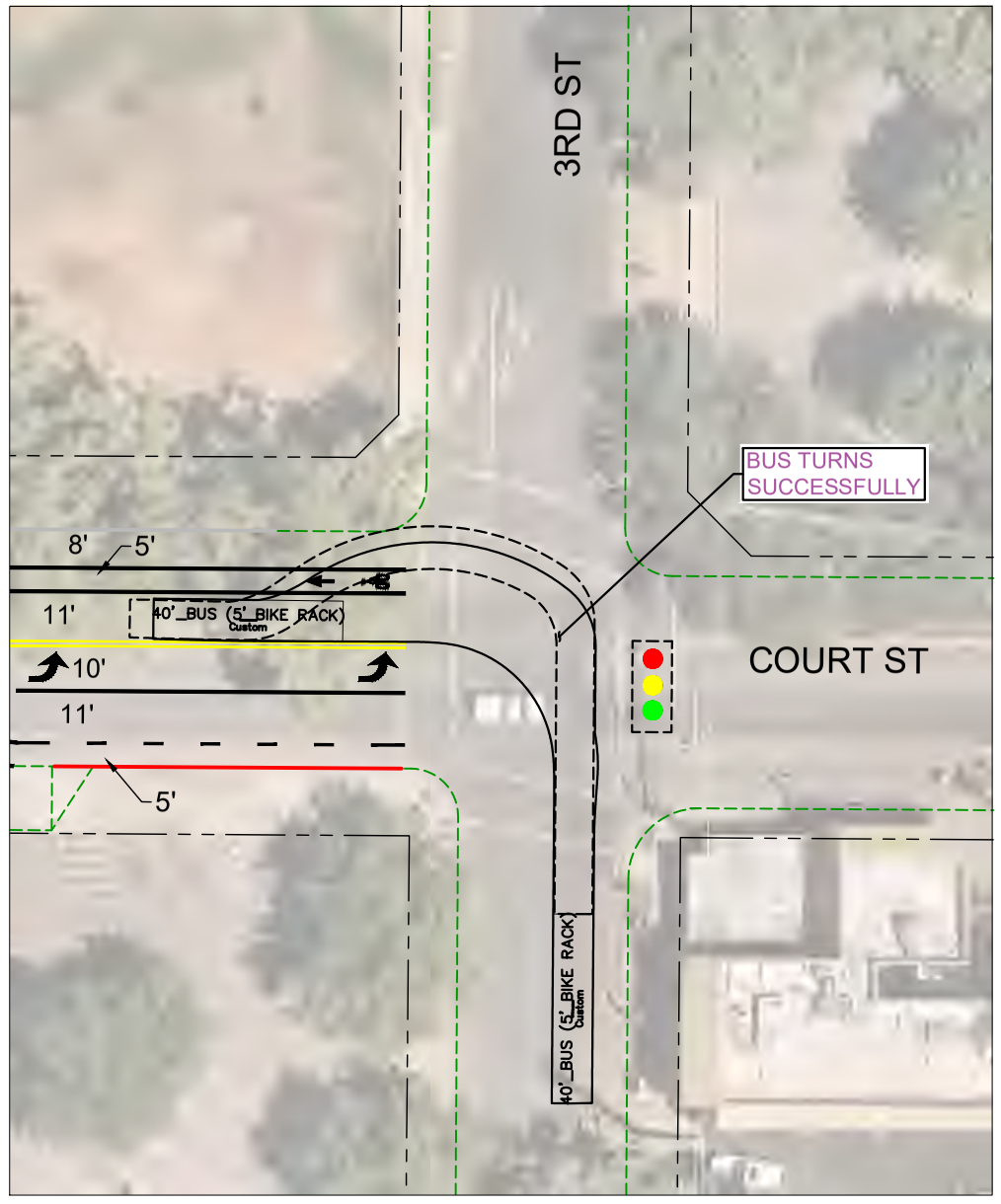

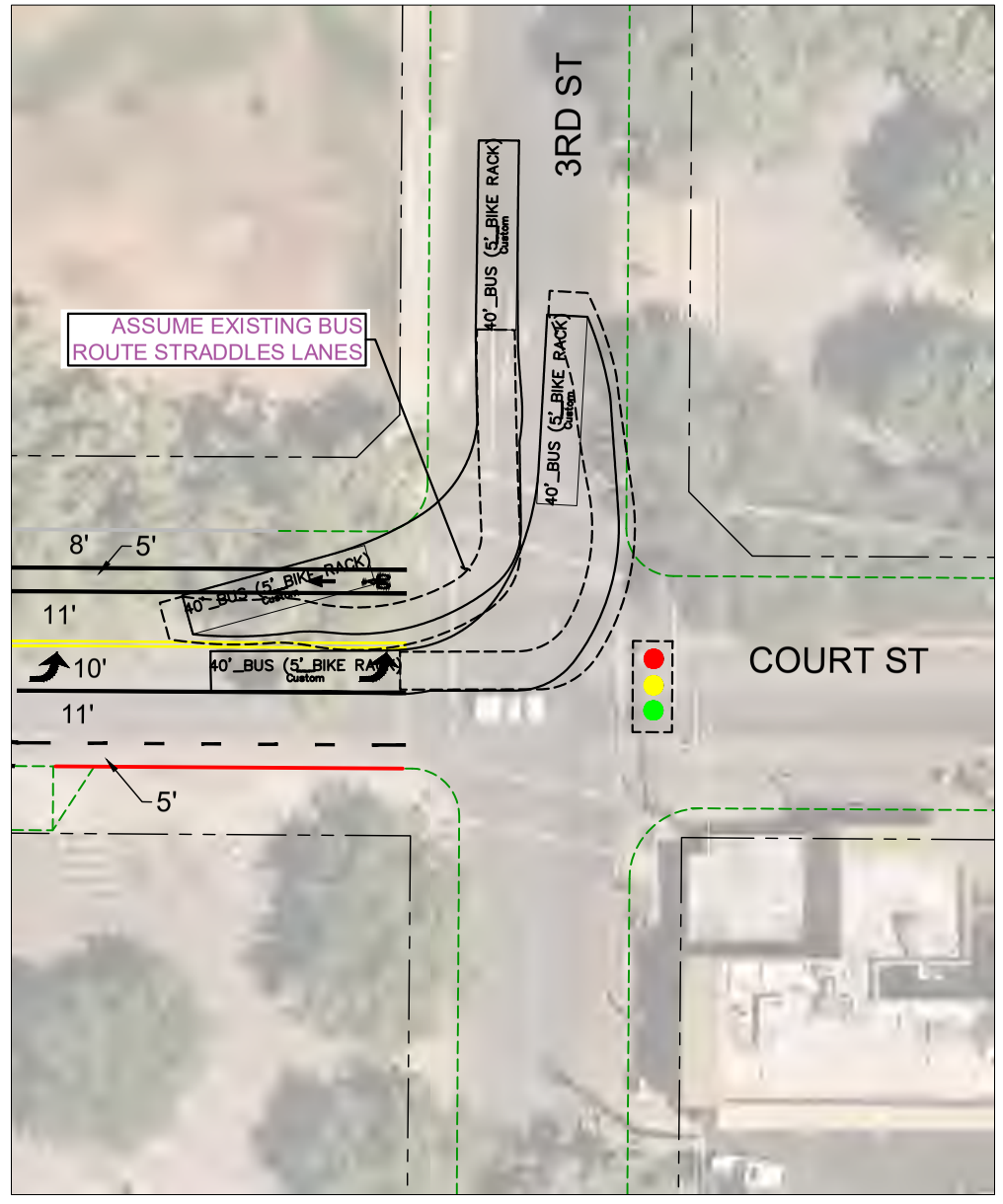

GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

WOODLAND TRANSIT CENTER RELOCATION CONCEPT
BUS TURN MODIFICATIONS
3RD ST AND COURT ST
JUNE 2024

LEGEND

- EXISTING RIGHT OF WAY/PROPERTY LINE
- EXISTING CURB/SIDEWALK
- PROPOSED CURB/SIDEWALK
- PROPOSED RED CURB
- PROPOSED WHITE CURB
- BIKE LANE SYMBOL
- (X') EXISTING WIDTH
- X' PROPOSED WIDTH

- VEHICLE/ROADWAY RECOMMENDATION
- PEDESTRIAN RECOMMENDATION
- BICYCLE RECOMMENDATION
- TRANSIT RECOMMENDATION
- PARKING ANALYSIS
- PROPOSED CONCRETE
- EXISTING TRAFFIC SIGNAL

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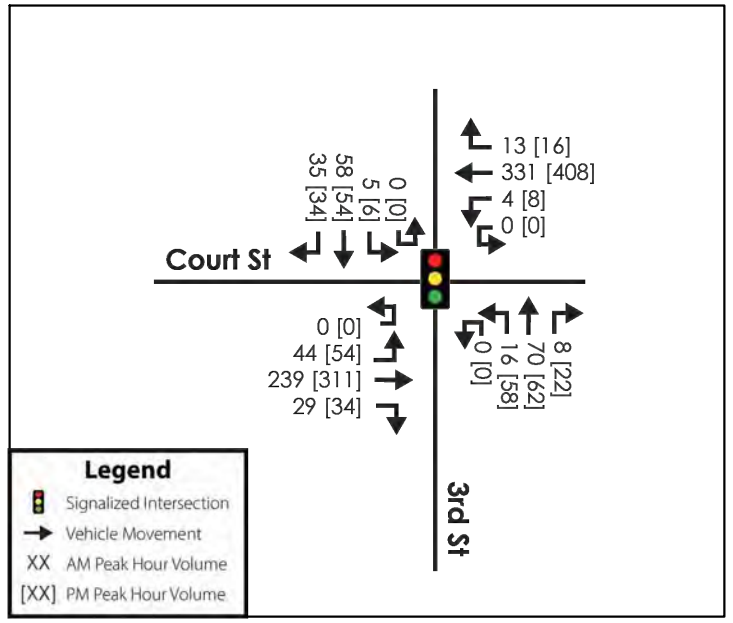

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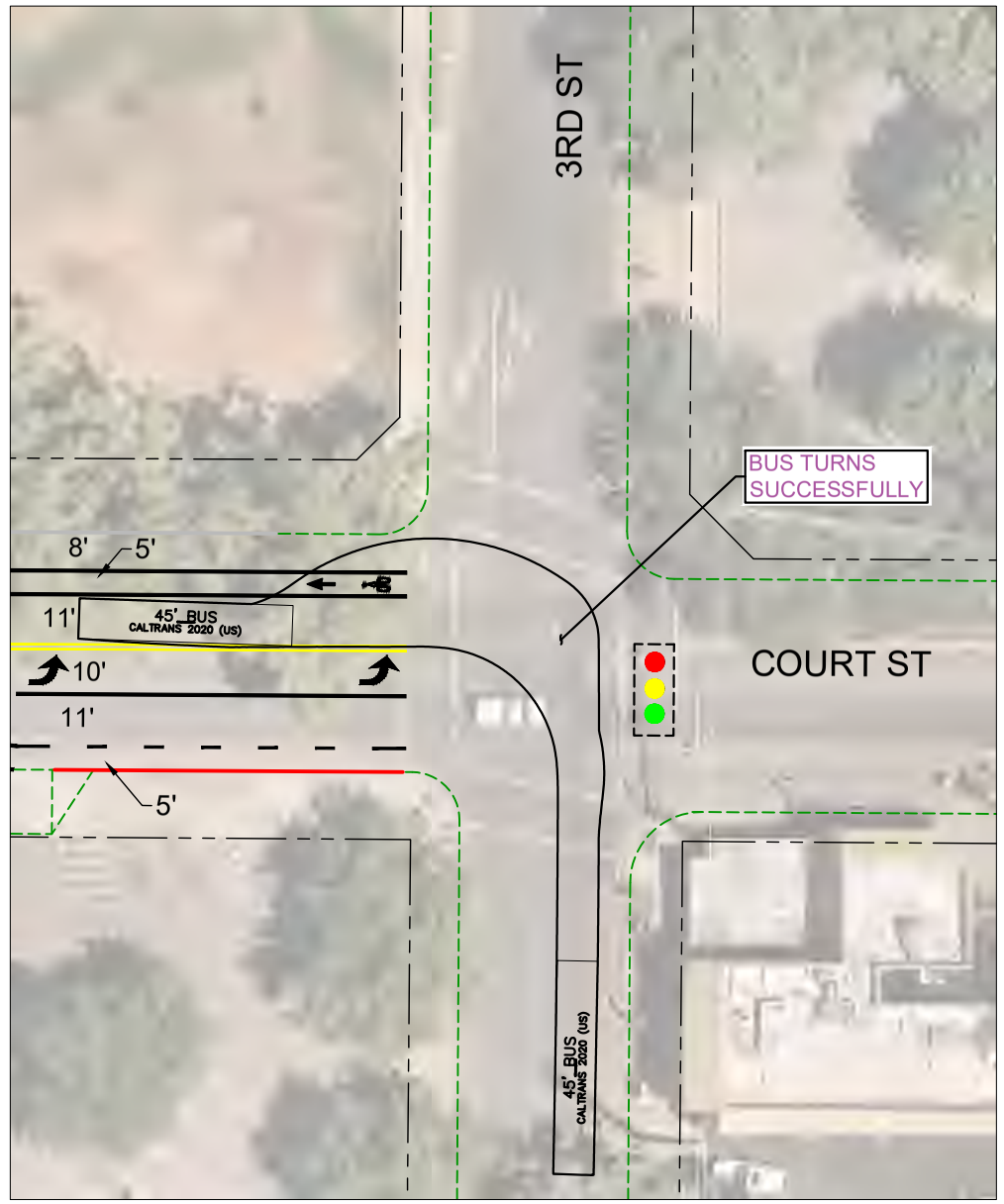

GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

WOODLAND TRANSIT CENTER RELOCATION CONCEPT
BUS TURN MODIFICATIONS
3RD ST AND COURT ST - BUS 45
JUNE 2024

LEGEND

- EXISTING RIGHT OF WAY/PROPERTY LINE
- EXISTING CURB/SIDEWALK
- PROPOSED CURB/SIDEWALK
- PROPOSED RED CURB
- PROPOSED WHITE CURB
- BIKE LANE SYMBOL
- (X') EXISTING WIDTH
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- VEHICLE/ROADWAY RECOMMENDATION
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- BICYCLE RECOMMENDATION
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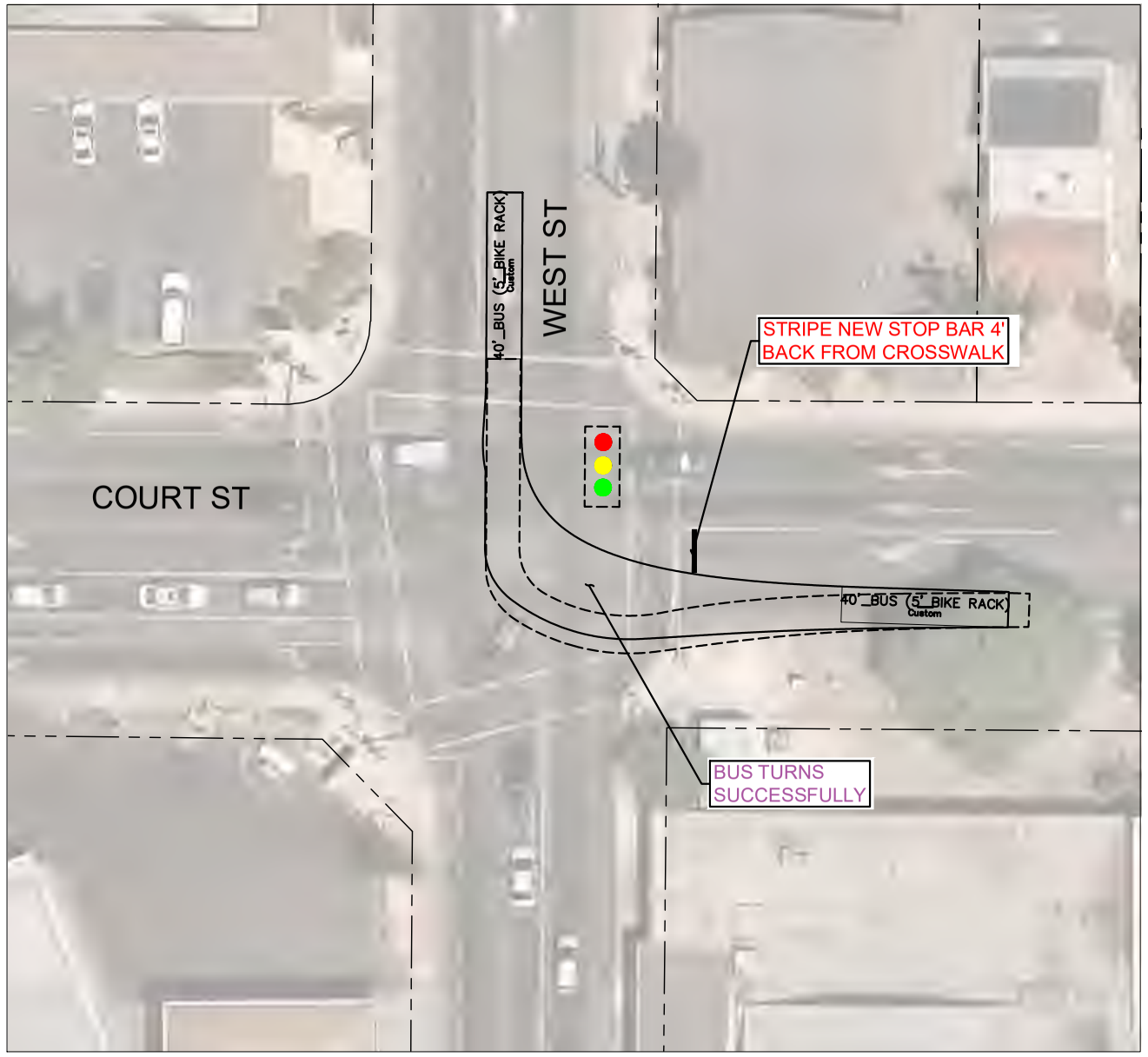
- PARKING ANALYSIS
- PROPOSED CONCRETE
- EXISTING TRAFFIC SIGNAL



GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

WOODLAND TRANSIT CENTER RELOCATION CONCEPT
BUS TURN MODIFICATIONS
WEST ST AND COURT ST
JUNE 2024

LEGEND

- EXISTING RIGHT OF WAY/PROPERTY LINE
- EXISTING CURB/SIDEWALK
- PROPOSED CURB/SIDEWALK
- PROPOSED RED CURB
- PROPOSED WHITE CURB
- BIKE LANE SYMBOL
- (X') EXISTING WIDTH
- X' PROPOSED WIDTH

- VEHICLE/ROADWAY RECOMMENDATION
- PEDESTRIAN RECOMMENDATION
- BICYCLE RECOMMENDATION
- TRANSIT RECOMMENDATION
- PARKING ANALYSIS
- PROPOSED CONCRETE
- EXISTING TRAFFIC SIGNAL

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GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

WOODLAND TRANSIT CENTER RELOCATION CONCEPT
BUS TURN MODIFICATIONS
ASHLEY AVE AND COURT ST
JUNE 2024

LEGEND

- EXISTING RIGHT OF WAY/PROPERTY LINE
- EXISTING CURB/SIDEWALK
- PROPOSED CURB/SIDEWALK
- PROPOSED RED CURB
- PROPOSED WHITE CURB
- BIKE LANE SYMBOL
- (X') EXISTING WIDTH
- X' PROPOSED WIDTH

- VEHICLE/ROADWAY RECOMMENDATION
- PEDESTRIAN RECOMMENDATION
- BICYCLE RECOMMENDATION
- TRANSIT RECOMMENDATION
- PARKING ANALYSIS
- PROPOSED CONCRETE
- EXISTING TRAFFIC SIGNAL

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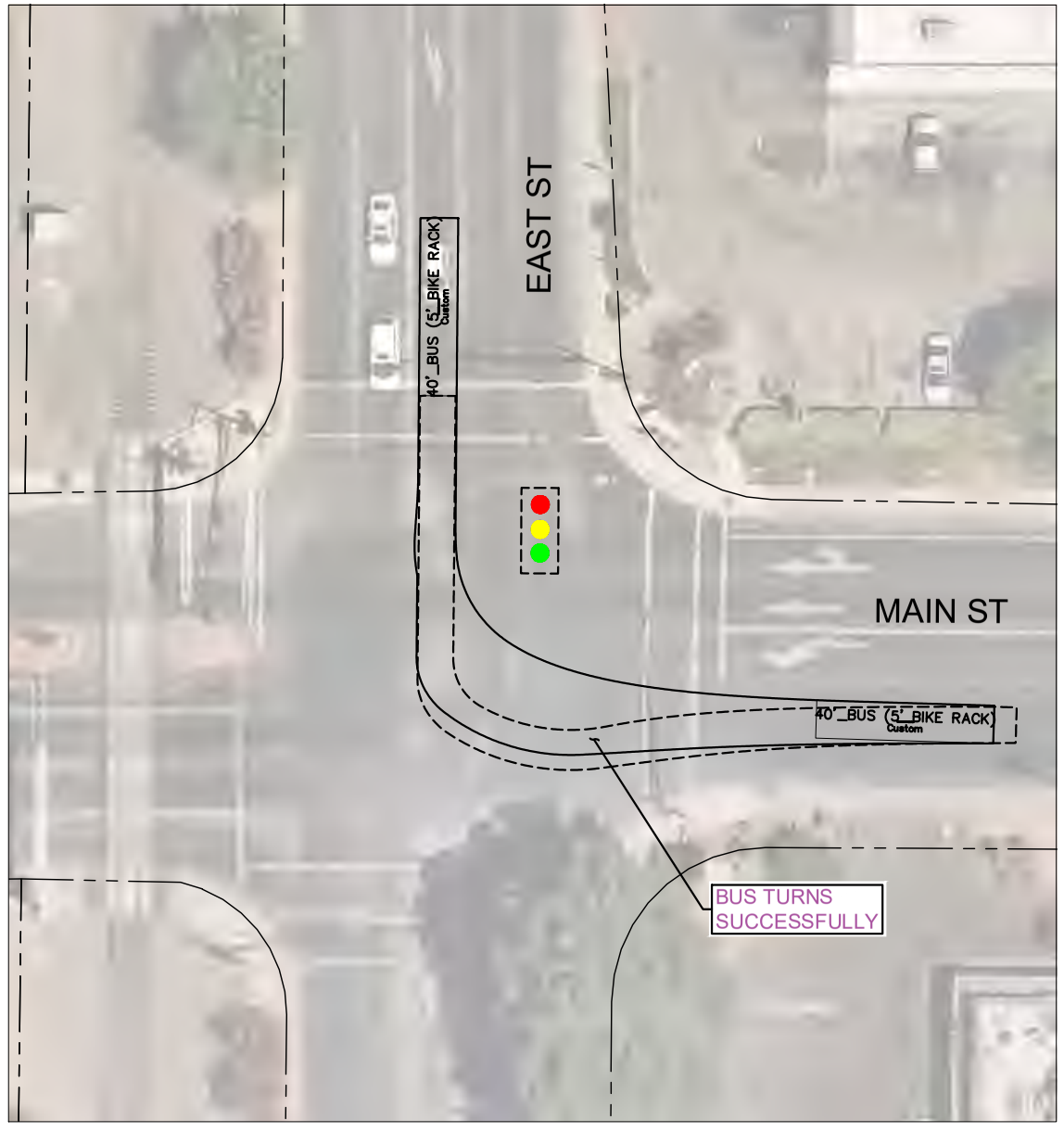

EAST ST AND MAIN ST

EAST ST AND COURT ST

GRAPHIC SCALE IN FEET
0 10 20 40

NORTH

WOODLAND TRANSIT CENTER RELOCATION CONCEPT
BUS TURN MODIFICATIONS
EAST ST
JUNE 2024

LEGEND

- EXISTING RIGHT OF WAY/PROPERTY LINE
- EXISTING CURB/SIDEWALK
- PROPOSED CURB/SIDEWALK
- PROPOSED RED CURB
- PROPOSED WHITE CURB
- BIKE LANE SYMBOL
- (X') EXISTING WIDTH
- X' PROPOSED WIDTH

- VEHICLE/ROADWAY RECOMMENDATION
- PEDESTRIAN RECOMMENDATION
- BICYCLE RECOMMENDATION
- TRANSIT RECOMMENDATION
- PARKING ANALYSIS
- PROPOSED CONCRETE
- EXISTING TRAFFIC SIGNAL

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ATTACHMENT B: TURNING MOVEMENT COUNTS

Prepared by National Data & Surveying Services

3rd St & Main St

Peak Hour Turning Movement Count

ID: 24-070073-001
City: Woodland

Day: Thursday
Date: 5/2/2024

PEAK HOURS

AM: 07:45 AM - 08:45 AM
NOON: NONE
PM: 04:15 PM - 05:15 PM

COUNT PERIODS

AM: 7:00 AM - 09:00 AM
NOON: NONE
PM: 4:00 PM - 06:00 PM

SOUTHBOUND (3rd St)

AM	18	60	45	0	84	AM
NOON	0	0	0	0	0	NOON
PM	27	80	76	0	102	PM
	0	1	0	0		

EASTBOUND (Main St)

AM	NOON	PM	
257	0	393	
0	0	0	0
11	0	11	1
221	0	417	1
6	0	14	0
AM	NOON	PM	

WESTBOUND (Main St)

PM	NOON	AM	
29	0	11	1
352	0	235	1
25	0	34	1
0	0	0	0
529	0	293	
PM	NOON	AM	

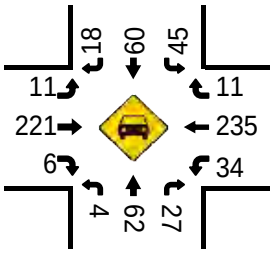
NORTHBOUND (3rd St)

	0	0	1	0		
PM	119	0	14	62	36	PM
NOON	0	0	0	0	0	NOON
AM	100	0	4	62	27	AM

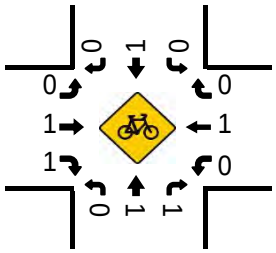
CONTROL: Signalized

TEV	734 AM	0 NOON	1143 PM
PHF	0.97		0.93

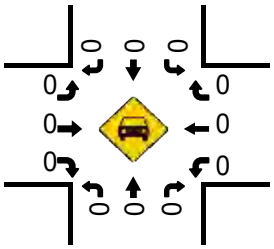
Totals (AM)



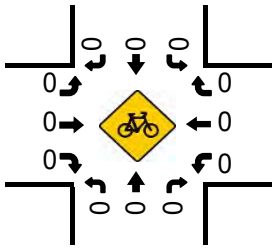
Total Bikes (AM)



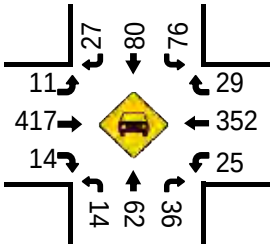
Totals (NOON)



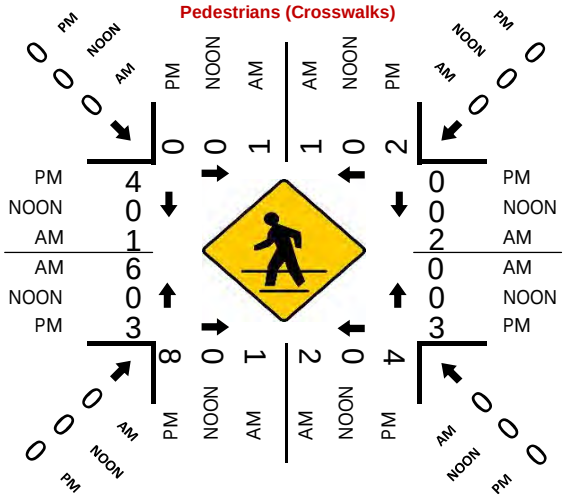
Total Bikes (NOON)



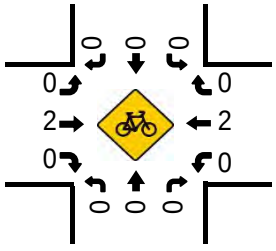
Totals (PM)



Pedestrians (Crosswalks)



Total Bikes (PM)



Prepared by National Data & Surveying Services

College St & Main St

Peak Hour Turning Movement Count

ID: 24-070073-002
City: Woodland

Day: Thursday
Date: 5/2/2024

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	7:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	4:00 PM - 06:00 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	805	0	1128
PHF	0.84		0.96

SOUTHBOUND (College St)

	L	T	R	U	Total	
AM	20	127	11	0	190	AM
NOON	0	0	0	0	0	NOON
PM	38	112	34	0	177	PM

EASTBOUND (Main St)

	L	T	R	U	Total	
AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	1	0	0	1	PM

	AM	NOON	PM
L	17	0	29
T	183	0	341
R	18	0	24
Total	241	0	376

WESTBOUND (Main St)

	L	T	R	U	Total	
PM	0	1	1	0	2	PM
NOON	0	0	0	0	0	NOON
AM	4	202	11	0	217	AM

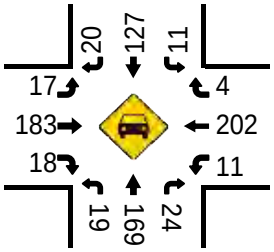
	PM	NOON	AM
L	25	0	4
T	328	0	202
R	27	0	11
Total	412	0	218

NORTHBOUND (College St)

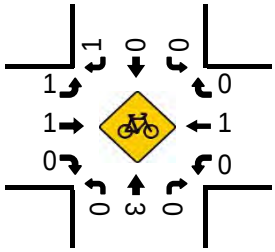
	L	T	R	U	Total	
AM	156	0	19	169	24	AM
NOON	0	0	0	0	0	NOON
PM	163	0	10	123	37	PM

	AM	NOON	PM
L	156	0	163
T	0	0	0
R	19	0	10
U	169	0	123
Total	24	0	37

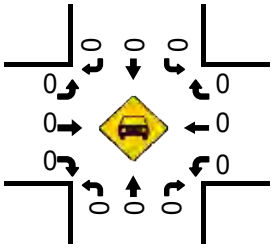
Totals (AM)



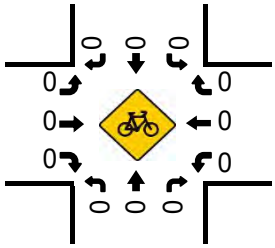
Total Bikes (AM)



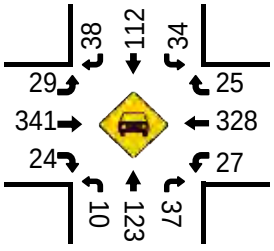
Totals (NOON)



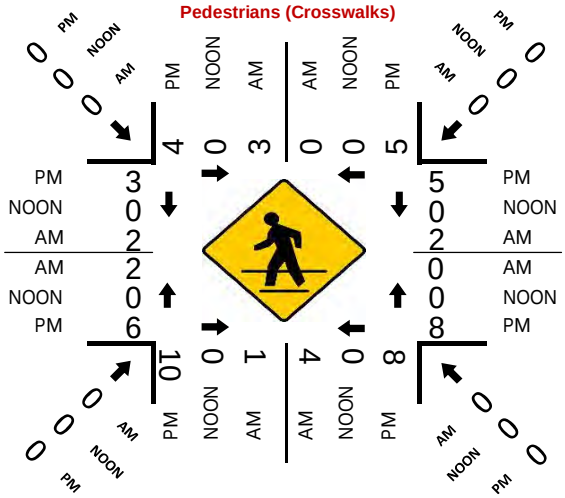
Total Bikes (NOON)



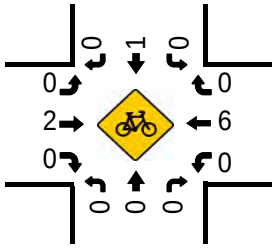
Totals (PM)



Pedestrians (Crosswalks)



Total Bikes (PM)



Prepared by National Data & Surveying Services

College St & Court St

Peak Hour Turning Movement Count

ID: 24-070073-003
City: Woodland

Day: Thursday
Date: 5/2/2024

PEAK HOURS

AM: 07:45 AM - 08:45 AM
NOON: NONE
PM: 04:15 PM - 05:15 PM

COUNT PERIODS

AM: 7:00 AM - 09:00 AM
NOON: NONE
PM: 4:00 PM - 06:00 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	1073	0	1269
PHF	0.87		0.97

SOUTHBOUND (College St)

	Left	Thru	Right	U-Turn	Total
AM	50	129	46	0	204
NOON	0	0	0	0	0
PM	60	113	40	0	166

EASTBOUND (Court St)

	Left	Thru	Right	U-Turn	Total
AM	19	277	49	0	355
NOON	0	0	0	0	0
PM	37	353	39	0	495

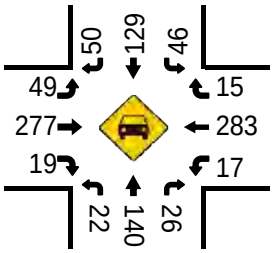
WESTBOUND (Court St)

	Left	Thru	Right	U-Turn	Total
AM	0	399	28	0	430
NOON	0	0	0	0	0
PM	15	283	17	0	315

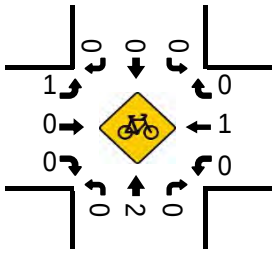
NORTHBOUND (College St)

	Left	Thru	Right	U-Turn	Total
AM	26	140	22	0	188
NOON	0	0	0	0	0
PM	37	94	36	0	167

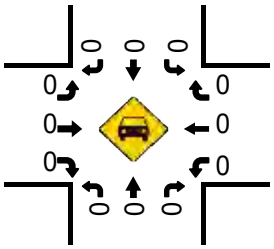
Totals (AM)



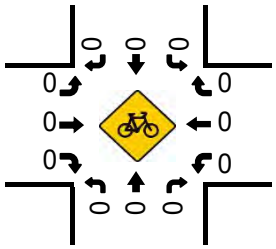
Total Bikes (AM)



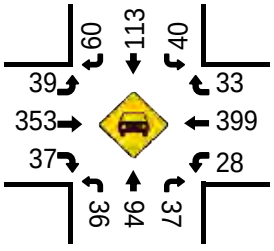
Totals (NOON)



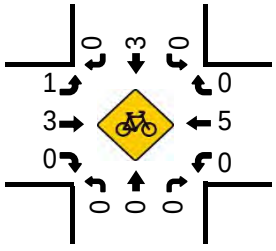
Total Bikes (NOON)



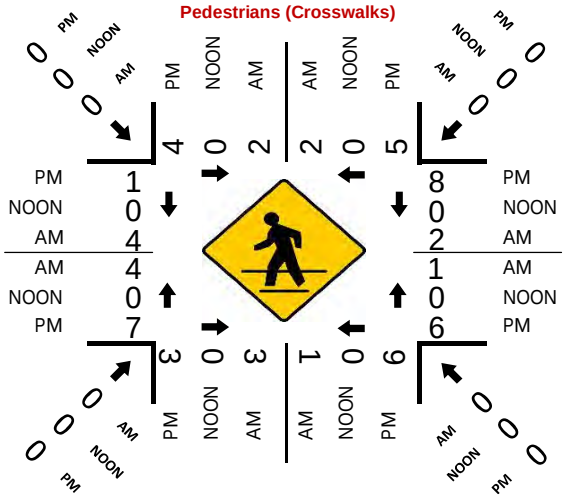
Totals (PM)



Total Bikes (PM)



Pedestrians (Crosswalks)



Prepared by National Data & Surveying Services

2nd St & Court St

Peak Hour Turning Movement Count

ID: 24-070073-004
City: Woodland

Day: Thursday
Date: 5/2/2024

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	7:00 AM - 09:00 AM
NONE	NONE
04:15 PM - 05:15 PM	4:00 PM - 06:00 PM

CONTROL: No Control

	AM	NOON	PM
TEV	717	0	911
PHF	0.91		0.91

SOUTHBOUND (2nd St)

	AM	NOON	PM
Left	0	0	0
Through	0	0	0
Right	0	0	0
U-Turn	0	0	0
Total	0	0	0

EASTBOUND (Court St)

	AM	NOON	PM
Left	353	0	461
Through	0	0	0
Right	0	0	0
U-Turn	307	0	388
Total	21	0	28

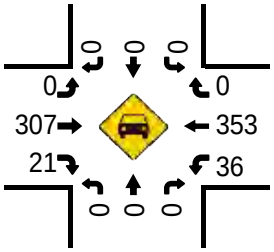
WESTBOUND (Court St)

	PM	NOON	AM
Left	0	0	0
Through	461	0	353
Right	33	0	36
U-Turn	1	0	0
Total	389	0	307

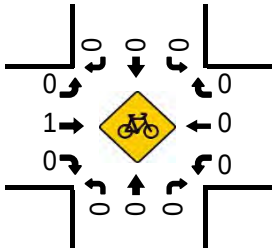
NORTHBOUND (2nd St)

	PM	NOON	AM
Left	61	0	57
Through	0	0	0
Right	0	0	0
U-Turn	0	0	0
Total	0	0	0

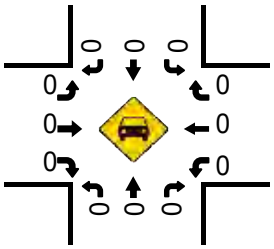
Totals (AM)



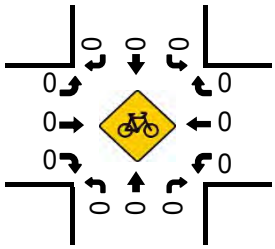
Total Bikes (AM)



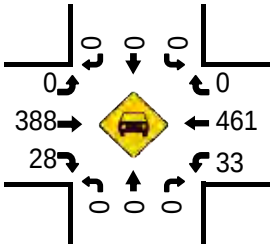
Totals (NOON)



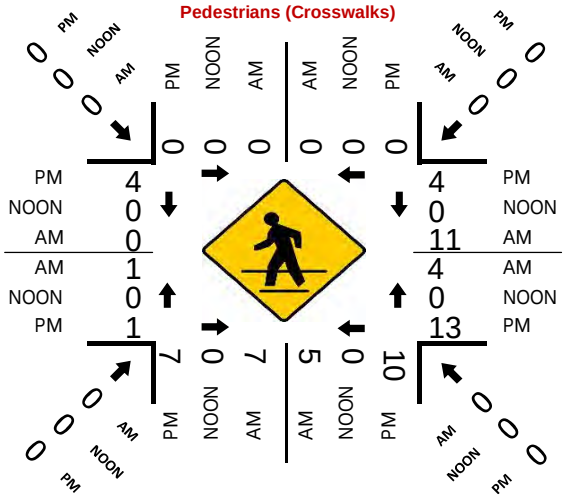
Total Bikes (NOON)



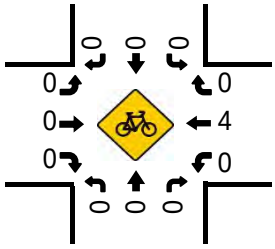
Totals (PM)



Pedestrians (Crosswalks)



Total Bikes (PM)



Prepared by National Data & Surveying Services

3rd St & Court St

Peak Hour Turning Movement Count

ID: 24-070073-005
City: Woodland

Day: Thursday
Date: 5/2/2024

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	7:00 AM - 09:00 AM
NONE	NONE
04:15 PM - 05:15 PM	4:00 PM - 06:00 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	852	0	1067
PHF	0.91		0.97

SOUTHBOUND (3rd St)

	L	T	R	U	Total	
AM	35	58	5	0	127	AM
NOON	0	0	0	0	0	NOON
PM	34	54	6	0	132	PM
	1	0.5	0.5	0		

EASTBOUND (Court St)

	AM	NOON	PM	
	382	0	500	
0	0	0	0	0
1	44	0	54	1
1	239	0	311	1
0	29	0	34	0
	AM	NOON	PM	

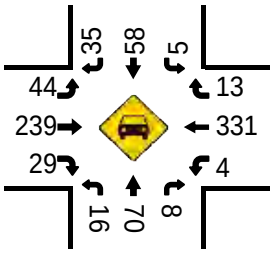
WESTBOUND (Court St)

	PM	NOON	AM	
0	16	0	13	
1	408	0	331	
1	8	0	4	
0	0	0	0	
	339	0	252	
	PM	NOON	AM	

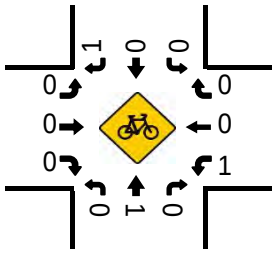
NORTHBOUND (3rd St)

	L	T	T	R	Total	
	0	0	1	0		
PM	96	0	58	62	22	PM
NOON	0	0	0	0	0	NOON
AM	91	0	16	70	8	AM

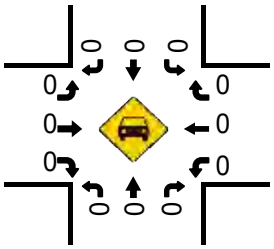
Totals (AM)



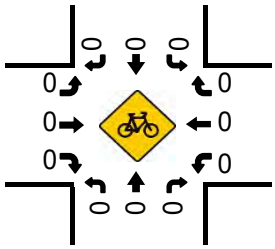
Total Bikes (AM)



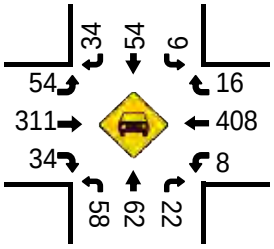
Totals (NOON)



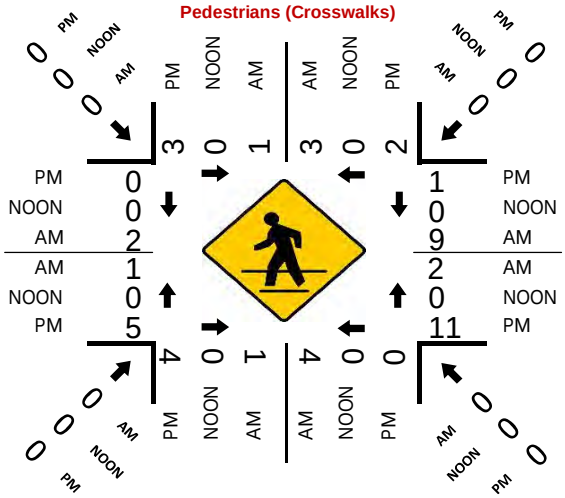
Total Bikes (NOON)



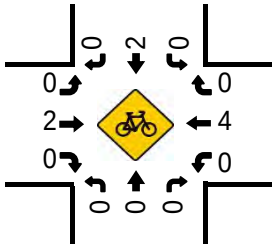
Totals (PM)



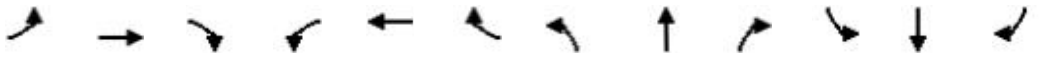
Pedestrians (Crosswalks)



Total Bikes (PM)



ATTACHMENT C: SYNCHRO CAPACITY REPORTS



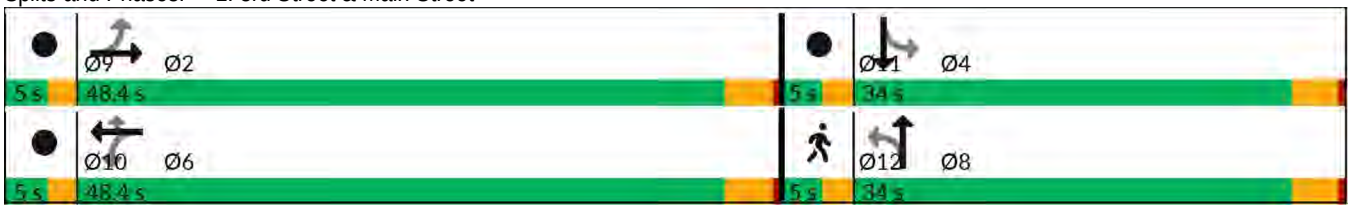
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	221	6	34	235	11	4	62	27	45	60	18
Future Volume (vph)	11	221	6	34	235	11	4	62	27	45	60	18
Satd. Flow (prot)	1805	1892	0	1805	1900	1615	0	1822	0	0	1830	0
Flt Permitted	0.583			0.578				0.985			0.772	
Satd. Flow (perm)	1108	1892	0	1098	1900	1615	0	1799	0	0	1439	0
Satd. Flow (RTOR)		2				55		23			10	
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.86	0.86	0.86	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	13	257	7	37	258	12	5	72	31	48	65	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	264	0	37	258	12	0	108	0	0	132	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	21.7	21.7		19.7	19.7	19.7	26.7	26.7		21.7	21.7	
Total Split (s)	48.4	48.4		48.4	48.4	48.4	34.0	34.0		34.0	34.0	
Total Split (%)	52.4%	52.4%		52.4%	52.4%	52.4%	36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	44.7	44.7		44.7	44.7	44.7	30.3	30.3		30.3	30.3	
Yellow Time (s)	3.2	3.2		3.2	3.2	3.2	3.2	3.2		3.2	3.2	
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	3.7	3.7		3.7	3.7	3.7		3.7			3.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Recall Mode	Max	Max		Max	Max	Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		9.0	9.0	9.0	16.0	16.0		11.0	11.0	
Pedestrian Calls (#/hr)	3	3		2	2	2	2	2		7	7	
Act Effct Green (s)	44.9	44.9		44.9	44.9	44.9		11.3			11.3	
Actuated g/C Ratio	0.61	0.61		0.61	0.61	0.61		0.15			0.15	
v/c Ratio	0.01	0.22		0.05	0.22	0.01		0.36			0.57	
Control Delay (s/veh)	7.8	8.0		7.7	8.0	0.0		25.2			36.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay (s/veh)	7.8	8.0		7.7	8.0	0.0		25.2			36.5	
LOS	A	A		A	A	A		C			D	
Approach Delay (s/veh)		8.1			7.7			25.2			36.6	
Approach LOS		A			A			C			D	
Queue Length 50th (ft)	2	43		5	42	0		35			52	
Queue Length 95th (ft)	11	112		24	116	0		71			102	
Internal Link Dist (ft)		1094			489			483			395	
Turn Bay Length (ft)	100			75		75						
Base Capacity (vph)	675	1154		669	1158	1005		756			600	
Starvation Cap Reductn	0	0		0	0	0		0			0	
Spillback Cap Reductn	0	0		0	0	0		0			0	

Lane Group	Ø9	Ø10	Ø11	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Satd. Flow (RTOR)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	9	10	11	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	3.0	3.0	3.0	3.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	5%	5%	5%	5%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	0.2	0.2	0.2	0.2
Recall Mode	Max	Max	Max	Max
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				

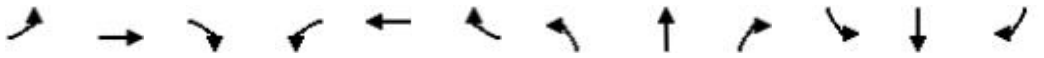
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0	0		0			0	
Reduced v/c Ratio	0.02	0.23		0.06	0.22	0.01		0.14			0.22	

Intersection Summary	
Cycle Length: 92.4	
Actuated Cycle Length: 73.7	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay (s/veh): 14.8	Intersection LOS: B
Intersection Capacity Utilization 42.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: 3rd Street & Main Street



Lane Group	Ø9	Ø10	Ø11	Ø12
Storage Cap Reductn				
Reduced v/c Ratio				
Intersection Summary				



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	183	18	11	202	4	19	169	24	11	127	20
Future Volume (vph)	17	183	18	11	202	4	19	169	24	11	127	20
Satd. Flow (prot)	1805	1875	0	1805	1894	0	0	1864	0	0	1862	0
Flt Permitted	0.950			0.950				0.996			0.997	
Satd. Flow (perm)	1805	1875	0	1805	1894	0	0	1864	0	0	1862	0
Peak Hour Factor	0.88	0.88	0.88	0.94	0.94	0.94	0.64	0.64	0.64	0.77	0.77	0.77
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	19	208	20	12	215	4	30	264	38	14	165	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	228	0	12	219	0	0	332	0	0	205	0
Sign Control		Stop			Stop			Stop			Stop	

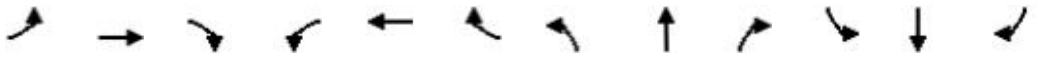
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 36.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	13.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	183	18	11	202	4	19	169	24	11	127	20
Future Vol, veh/h	17	183	18	11	202	4	19	169	24	11	127	20
Peak Hour Factor	0.88	0.88	0.88	0.94	0.94	0.94	0.64	0.64	0.64	0.77	0.77	0.77
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	19	208	20	12	215	4	30	264	38	14	165	26
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	13.5	13.5	15.2	12.3
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	9%	100%	0%	100%	0%	7%
Vol Thru, %	80%	0%	91%	0%	98%	80%
Vol Right, %	11%	0%	9%	0%	2%	13%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	212	17	201	11	206	158
LT Vol	19	17	0	11	0	11
Through Vol	169	0	183	0	202	127
RT Vol	24	0	18	0	4	20
Lane Flow Rate	331	19	228	12	219	205
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.528	0.038	0.415	0.023	0.403	0.346
Departure Headway (Hd)	5.855	7.122	6.546	7.15	6.625	6.073
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	619	505	553	503	546	593
Service Time	3.855	4.829	4.253	4.857	4.332	4.097
HCM Lane V/C Ratio	0.535	0.038	0.412	0.024	0.401	0.346
HCM Control Delay, s/veh	15.2	10.1	13.8	10	13.7	12.3
HCM Lane LOS	C	B	B	A	B	B
HCM 95th-tile Q	3.1	0.1	2	0.1	1.9	1.5

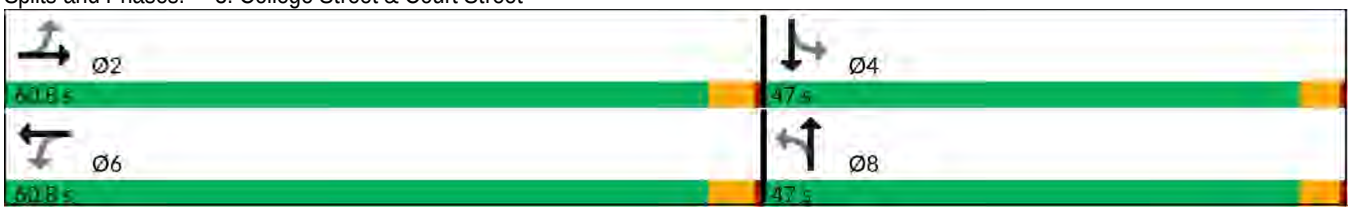


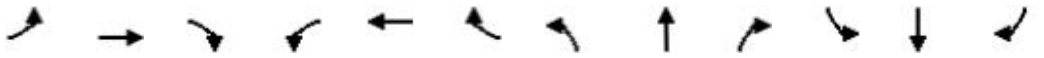
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	277	19	17	283	15	22	140	26	46	129	50
Future Volume (vph)	49	277	19	17	283	15	22	140	26	46	129	50
Satd. Flow (prot)	1805	1883	0	1805	1885	0	1805	1856	0	1805	1820	0
Flt Permitted	0.529			0.504			0.630			0.597		
Satd. Flow (perm)	1005	1883	0	958	1885	0	1197	1856	0	1134	1820	0
Satd. Flow (RTOR)		5			4			10			22	
Peak Hour Factor	0.78	0.78	0.78	0.83	0.83	0.83	0.63	0.63	0.63	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	63	355	24	20	341	18	35	222	41	52	147	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	379	0	20	359	0	35	263	0	52	204	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		7.0	7.0		7.0	7.0		8.0	8.0	
Minimum Split (s)	22.1	22.1		24.1	24.1		23.7	23.7		22.7	22.7	
Total Split (s)	60.8	60.8		60.8	60.8		47.0	47.0		47.0	47.0	
Total Split (%)	56.4%	56.4%		56.4%	56.4%		43.6%	43.6%		43.6%	43.6%	
Maximum Green (s)	56.7	56.7		56.7	56.7		43.3	43.3		43.3	43.3	
Yellow Time (s)	3.6	3.6		3.6	3.6		3.2	3.2		3.2	3.2	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.1	4.1		4.1	4.1		3.7	3.7		3.7	3.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		13.0	13.0		13.0	13.0		12.0	12.0	
Pedestrian Calls (#/hr)	4	4		4	4		3	3		8	8	
Act Effct Green (s)	11.2	11.2		11.2	11.2		10.1	10.1		10.4	10.4	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.34	0.34		0.35	0.35	
v/c Ratio	0.16	0.53		0.05	0.50		0.08	0.41		0.13	0.31	
Control Delay (s/veh)	8.2	10.7		7.3	10.3		8.0	9.8		8.4	8.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	8.2	10.7		7.3	10.3		8.0	9.8		8.4	8.3	
LOS	A	B		A	B		A	A		A	A	
Approach Delay (s/veh)		10.4			10.2			9.6			8.4	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	5	32		1	30		3	23		4	16	
Queue Length 95th (ft)	24	105		11	108		12	55		23	63	
Internal Link Dist (ft)		368			718			396			205	
Turn Bay Length (ft)	80			80			50			90		
Base Capacity (vph)	1005	1883		958	1885		1174	1821		1113	1786	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.06	0.20		0.02	0.19		0.03	0.14		0.05	0.11	

Intersection Summary	
Cycle Length: 107.8	
Actuated Cycle Length: 29.7	
Natural Cycle: 50	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay (s/veh): 9.8	Intersection LOS: A
Intersection Capacity Utilization 51.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: College Street & Court Street



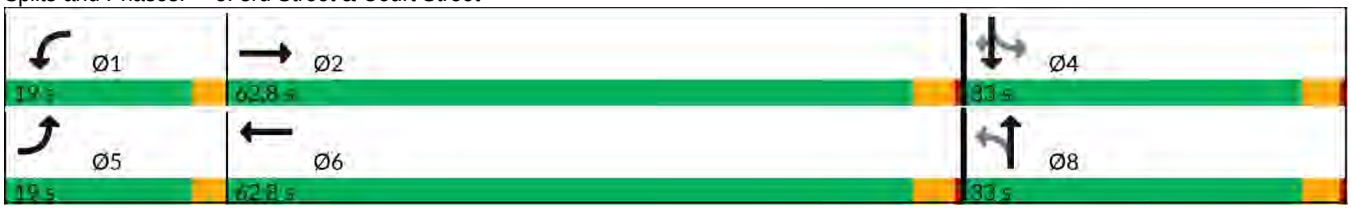


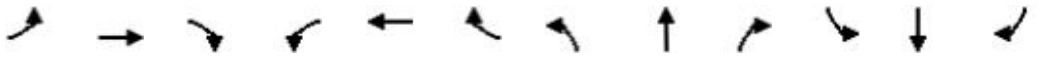
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	239	29	4	320	13	16	70	8	5	58	35
Future Volume (vph)	44	239	29	4	320	13	16	70	8	5	58	35
Satd. Flow (prot)	1805	1870	0	1805	1889	0	0	1860	0	0	1892	1615
Flt Permitted	0.950			0.950				0.936			0.969	
Satd. Flow (perm)	1805	1870	0	1805	1889	0	0	1757	0	0	1841	1615
Satd. Flow (RTOR)		8			3			4				40
Peak Hour Factor	0.91	0.91	0.91	0.93	0.93	0.93	0.81	0.81	0.81	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	48	263	32	4	344	14	20	86	10	6	66	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	295	0	4	358	0	0	116	0	0	72	40
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Detector Phase	5	2		1	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	3.0	7.0		3.0	7.0		3.0	3.0		7.0	7.0	7.0
Minimum Split (s)	9.5	19.1		6.0	19.1		19.7	19.7		19.7	19.7	19.7
Total Split (s)	19.0	62.8		19.0	62.8		33.0	33.0		33.0	33.0	33.0
Total Split (%)	16.6%	54.7%		16.6%	54.7%		28.7%	28.7%		28.7%	28.7%	28.7%
Maximum Green (s)	16.0	58.7		16.0	58.7		29.3	29.3		29.3	29.3	29.3
Yellow Time (s)	3.0	3.6		3.0	3.6		3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	0.0	0.5		0.0	0.5		0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	3.0	4.1		3.0	4.1			3.7			3.7	3.7
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.2		1.0	1.2		1.2	1.2		1.2	1.2	1.2
Recall Mode	None	None		None	None		None	None		None	None	None
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		8.0			8.0		9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)		5			4		11	11		3	3	3
Act Effct Green (s)	5.5	16.1		4.6	14.4			8.6			10.1	10.1
Actuated g/C Ratio	0.19	0.55		0.16	0.49			0.29			0.35	0.35
v/c Ratio	0.14	0.28		0.01	0.38			0.22			0.11	0.06
Control Delay (s/veh)	16.5	7.5		18.2	10.5			11.8			11.3	5.4
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay (s/veh)	16.5	7.5		18.2	10.5			11.8			11.3	5.4
LOS	B	A		B	B			B			B	A
Approach Delay (s/veh)		8.8			10.6			11.9			9.2	
Approach LOS		A			B			B			A	
Queue Length 50th (ft)	5	21		1	27			10			6	0
Queue Length 95th (ft)	37	109		8	150			48			36	15
Internal Link Dist (ft)		304			385			395			180	
Turn Bay Length (ft)	80			80								40
Base Capacity (vph)	1112	1870		1112	1889			1546			1619	1425
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.04	0.16		0.00	0.19			0.08			0.04	0.03

Intersection Summary	
Cycle Length: 114.8	
Actuated Cycle Length: 29.2	
Natural Cycle: 50	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.38	
Intersection Signal Delay (s/veh): 9.9	Intersection LOS: A
Intersection Capacity Utilization 42.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: 3rd Street & Court Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	417	14	25	352	29	14	62	36	76	80	27
Future Volume (vph)	11	417	14	25	352	29	14	62	36	76	80	27
Satd. Flow (prot)	1805	1890	0	1805	1900	1615	0	1807	0	0	1825	0
Flt Permitted	0.473			0.412				0.951			0.738	
Satd. Flow (perm)	899	1890	0	783	1900	1615	0	1729	0	0	1374	0
Satd. Flow (RTOR)		3				55		27			10	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	12	458	15	28	391	32	17	76	44	93	98	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	473	0	28	391	32	0	137	0	0	224	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0		8.0	8.0	
Minimum Split (s)	21.7	21.7		19.7	19.7	19.7	26.7	26.7		21.7	21.7	
Total Split (s)	50.4	50.4		50.4	50.4	50.4	32.0	32.0		32.0	32.0	
Total Split (%)	54.5%	54.5%		54.5%	54.5%	54.5%	34.6%	34.6%		34.6%	34.6%	
Maximum Green (s)	46.7	46.7		46.7	46.7	46.7	28.3	28.3		28.3	28.3	
Yellow Time (s)	3.2	3.2		3.2	3.2	3.2	3.2	3.2		3.2	3.2	
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	3.7	3.7		3.7	3.7	3.7		3.7			3.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Recall Mode	Max	Max		Max	Max	Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		9.0	9.0	9.0	16.0	16.0		11.0	11.0	
Pedestrian Calls (#/hr)	12	12		2	2	2	3	3		7	7	
Act Effct Green (s)	46.9	46.9		46.9	46.9	46.9		14.5			14.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59	0.59		0.18			0.18	
v/c Ratio	0.02	0.42		0.06	0.34	0.03		0.40			0.86	
Control Delay (s/veh)	8.6	10.9		8.8	10.1	1.3		25.5			58.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay (s/veh)	8.6	10.9		8.8	10.1	1.3		25.5			58.9	
LOS	A	B		A	B	A		C			E	
Approach Delay (s/veh)		10.9			9.5			25.6			58.9	
Approach LOS		B			A			C			E	
Queue Length 50th (ft)	2	111		5	88	0		47			103	
Queue Length 95th (ft)	11	226		20	180	7		85			158	
Internal Link Dist (ft)		1094			489			483			395	
Turn Bay Length (ft)	100			75		75						
Base Capacity (vph)	534	1125		465	1129	982		640			501	
Starvation Cap Reductn	0	0		0	0	0		0			0	
Spillback Cap Reductn	0	0		0	0	0		0			0	

Lane Group	Ø9	Ø10	Ø11	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Satd. Flow (RTOR)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	9	10	11	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	3.0	3.0	3.0	3.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	5%	5%	5%	5%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	0.2	0.2	0.2	0.2
Recall Mode	Max	Max	Max	Max
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				

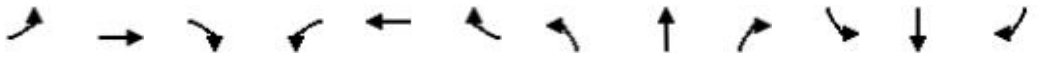
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0	0		0			0	
Reduced v/c Ratio	0.02	0.42		0.06	0.35	0.03		0.21			0.45	

Intersection Summary	
Cycle Length: 92.4	
Actuated Cycle Length: 78.9	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay (s/veh): 20.3	Intersection LOS: C
Intersection Capacity Utilization 46.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: 3rd Street & Main Street

Lane Group	Ø9	Ø10	Ø11	Ø12
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	347	20	28	327	24	12	120	35	31	116	32
Future Volume (vph)	28	347	20	28	327	24	12	120	35	31	116	32
Satd. Flow (prot)	1805	1885	0	1805	1881	0	0	1839	0	0	1838	0
Flt Permitted	0.950			0.950				0.996			0.991	
Satd. Flow (perm)	1805	1885	0	1805	1881	0	0	1839	0	0	1838	0
Peak Hour Factor	0.97	0.97	0.97	0.94	0.94	0.94	0.95	0.95	0.95	0.75	0.75	0.75
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	29	358	21	30	348	26	13	126	37	41	155	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	379	0	30	374	0	0	176	0	0	239	0
Sign Control		Stop			Stop			Stop			Stop	

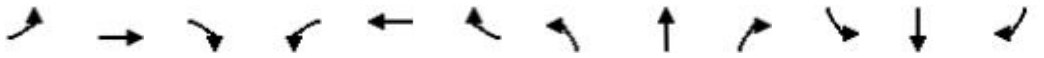
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 47.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	20.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	347	20	28	327	24	12	120	35	31	116	32
Future Vol, veh/h	28	347	20	28	327	24	12	120	35	31	116	32
Peak Hour Factor	0.97	0.97	0.97	0.94	0.94	0.94	0.95	0.95	0.95	0.75	0.75	0.75
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	29	358	21	30	348	26	13	126	37	41	155	43
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	23.1	22.6	13.8	15.6
HCM LOS	C	C	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	7%	100%	0%	100%	0%	17%
Vol Thru, %	72%	0%	95%	0%	93%	65%
Vol Right, %	21%	0%	5%	0%	7%	18%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	167	28	367	28	351	179
LT Vol	12	28	0	28	0	31
Through Vol	120	0	347	0	327	116
RT Vol	35	0	20	0	24	32
Lane Flow Rate	176	29	378	30	373	239
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.344	0.058	0.706	0.06	0.697	0.455
Departure Headway (Hd)	7.043	7.271	6.72	7.279	6.718	6.868
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	508	491	537	491	538	523
Service Time	5.122	5.036	4.484	5.045	4.483	4.941
HCM Lane V/C Ratio	0.346	0.059	0.704	0.061	0.693	0.457
HCM Control Delay, s/veh	13.8	10.5	24.1	10.5	23.6	15.6
HCM Lane LOS	B	B	C	B	C	C
HCM 95th-tile Q	1.5	0.2	5.6	0.2	5.4	2.3

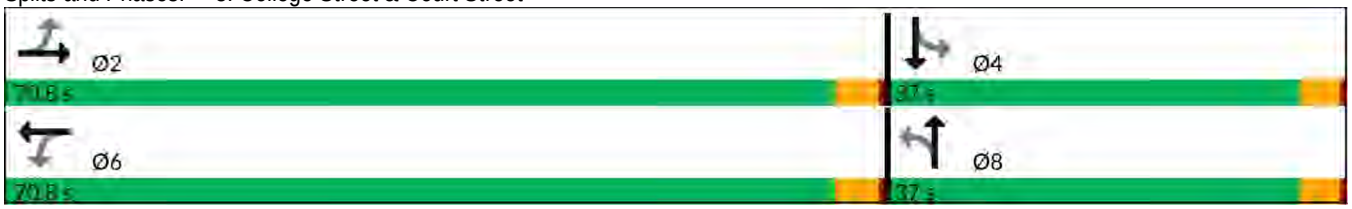


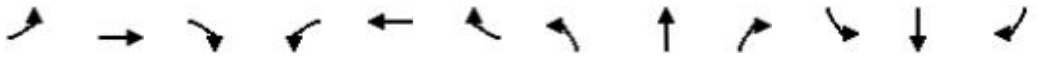
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	353	37	28	399	33	36	94	37	40	113	60
Future Volume (vph)	39	353	37	28	399	33	36	94	37	40	113	60
Satd. Flow (prot)	1805	1873	0	1805	1879	0	1805	1818	0	1805	1801	0
Flt Permitted	0.455			0.501			0.639			0.665		
Satd. Flow (perm)	864	1873	0	952	1879	0	1214	1818	0	1264	1801	0
Satd. Flow (RTOR)		9			7			19			26	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.91	0.91	0.91	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	41	376	39	30	424	35	40	103	41	43	123	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	415	0	30	459	0	40	144	0	43	188	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		7.0	7.0		7.0	7.0		8.0	8.0	
Minimum Split (s)	22.1	22.1		24.1	24.1		23.7	23.7		22.7	22.7	
Total Split (s)	70.8	70.8		70.8	70.8		37.0	37.0		37.0	37.0	
Total Split (%)	65.7%	65.7%		65.7%	65.7%		34.3%	34.3%		34.3%	34.3%	
Maximum Green (s)	66.7	66.7		66.7	66.7		33.3	33.3		33.3	33.3	
Yellow Time (s)	3.6	3.6		3.6	3.6		3.2	3.2		3.2	3.2	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.1	4.1		4.1	4.1		3.7	3.7		3.7	3.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		13.0	13.0		13.0	13.0		12.0	12.0	
Pedestrian Calls (#/hr)	4	4		4	4		3	3		8	8	
Act Effct Green (s)	14.4	14.4		14.4	14.4		10.6	10.6		11.1	11.1	
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.38	0.38		0.40	0.40	
v/c Ratio	0.09	0.42		0.06	0.46		0.08	0.20		0.08	0.25	
Control Delay (s/veh)	7.3	8.7		7.1	9.2		8.3	7.9		8.3	8.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	7.3	8.7		7.1	9.2		8.3	7.9		8.3	8.0	
LOS	A	A		A	A		A	A		A	A	
Approach Delay (s/veh)		8.6			9.1			8.0			8.1	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)	3	35		2	41		4	11		4	15	
Queue Length 95th (ft)	21	143		16	163		20	47		21	59	
Internal Link Dist (ft)		368			718			396			205	
Turn Bay Length (ft)	80			80			50			90		
Base Capacity (vph)	864	1873		952	1879		1140	1709		1187	1693	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.05	0.22		0.03	0.24		0.04	0.08		0.04	0.11	

Intersection Summary	
Cycle Length: 107.8	
Actuated Cycle Length: 27.7	
Natural Cycle: 50	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay (s/veh): 8.6	Intersection LOS: A
Intersection Capacity Utilization 57.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: College Street & Court Street



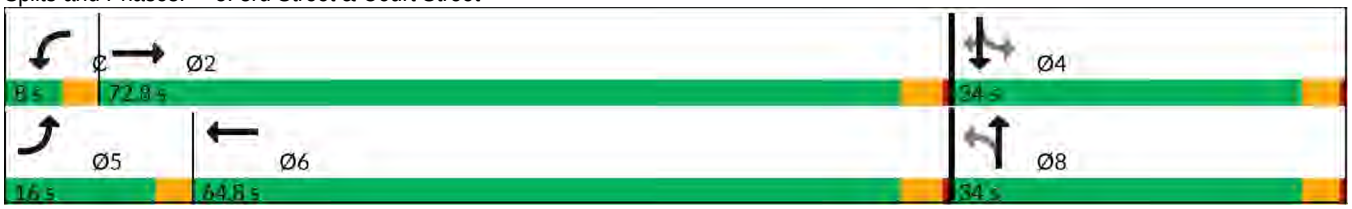


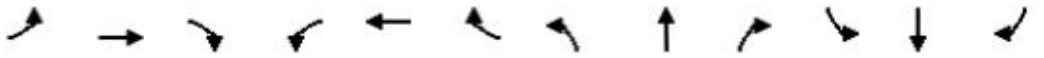
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	311	34	8	408	16	58	62	22	6	54	34
Future Volume (vph)	54	311	34	8	408	16	58	62	22	6	54	34
Satd. Flow (prot)	1805	1872	0	1805	1889	0	0	1823	0	0	1890	1615
Flt Permitted	0.950			0.950				0.835			0.965	
Satd. Flow (perm)	1805	1872	0	1805	1889	0	0	1553	0	0	1834	1615
Satd. Flow (RTOR)		9			3			8				67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	59	338	37	9	443	17	67	71	25	7	62	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	375	0	9	460	0	0	163	0	0	69	39
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Detector Phase	5	2		1	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	3.0	7.0		3.0	7.0		3.0	3.0		7.0	7.0	7.0
Minimum Split (s)	6.0	19.1		6.0	19.1		19.7	19.7		19.7	19.7	19.7
Total Split (s)	16.0	72.8		8.0	64.8		34.0	34.0		34.0	34.0	34.0
Total Split (%)	13.9%	63.4%		7.0%	56.4%		29.6%	29.6%		29.6%	29.6%	29.6%
Maximum Green (s)	13.0	68.7		5.0	60.7		30.3	30.3		30.3	30.3	30.3
Yellow Time (s)	3.0	3.6		3.0	3.6		3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	0.0	0.5		0.0	0.5		0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	3.0	4.1		3.0	4.1			3.7			3.7	3.7
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	1.2		3.0	1.2		1.2	1.2		1.2	1.2	1.2
Recall Mode	None	None		None	None		None	None		None	None	None
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		8.0			8.0		9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)		5			4		11	11		3	3	3
Act Effct Green (s)	9.3	23.9		7.1	19.7			10.3			11.9	11.9
Actuated g/C Ratio	0.25	0.63		0.19	0.52			0.27			0.31	0.31
v/c Ratio	0.13	0.31		0.02	0.46			0.37			0.11	0.07
Control Delay (s/veh)	19.6	6.8		23.1	12.6			18.4			16.2	2.9
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay (s/veh)	19.6	6.8		23.1	12.6			18.4			16.2	2.9
LOS	B	A		C	B			B			B	A
Approach Delay (s/veh)		8.6			12.9			18.5			11.4	
Approach LOS		A			B			B			B	
Queue Length 50th (ft)	12	32		2	85			32			13	0
Queue Length 95th (ft)	49	139		15	212			92			46	10
Internal Link Dist (ft)		304			385			395			180	
Turn Bay Length (ft)	80			80								40
Base Capacity (vph)	823	1872		340	1880			1199			1414	1260
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.07	0.20		0.03	0.24			0.14			0.05	0.03

Intersection Summary	
Cycle Length: 114.8	
Actuated Cycle Length: 37.8	
Natural Cycle: 55	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay (s/veh): 12.0	Intersection LOS: B
Intersection Capacity Utilization 50.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: 3rd Street & Court Street





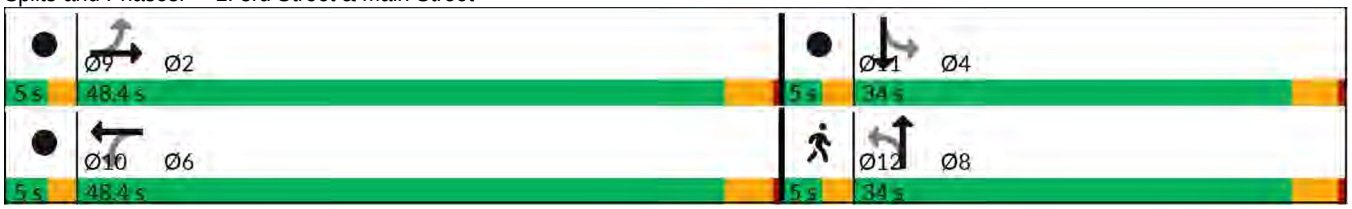
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	225	6	34	235	16	4	62	27	45	60	18
Future Volume (vph)	11	225	6	34	235	16	4	62	27	45	60	18
Satd. Flow (prot)	1805	1856	0	1805	1844	0	0	1822	0	0	1830	0
Flt Permitted	0.568			0.574				0.985			0.772	
Satd. Flow (perm)	1079	1856	0	1091	1844	0	0	1799	0	0	1439	0
Satd. Flow (RTOR)		2			5			23			10	
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.86	0.86	0.86	0.93	0.93	0.93
Heavy Vehicles (%)	0%	2%	0%	0%	0%	31%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	13	262	7	37	258	18	5	72	31	48	65	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	269	0	37	276	0	0	108	0	0	132	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	21.7	21.7		19.7	19.7		26.7	26.7		21.7	21.7	
Total Split (s)	48.4	48.4		48.4	48.4		34.0	34.0		34.0	34.0	
Total Split (%)	52.4%	52.4%		52.4%	52.4%		36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	44.7	44.7		44.7	44.7		30.3	30.3		30.3	30.3	
Yellow Time (s)	3.2	3.2		3.2	3.2		3.2	3.2		3.2	3.2	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	3.7	3.7		3.7	3.7			3.7			3.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		9.0	9.0		16.0	16.0		11.0	11.0	
Pedestrian Calls (#/hr)	3	3		2	2		2	2		7	7	
Act Effct Green (s)	44.9	44.9		44.9	44.9			11.3			11.3	
Actuated g/C Ratio	0.61	0.61		0.61	0.61			0.15			0.15	
v/c Ratio	0.01	0.23		0.05	0.24			0.36			0.57	
Control Delay (s/veh)	7.8	8.1		7.7	8.1			25.2			36.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay (s/veh)	7.8	8.1		7.7	8.1			25.2			36.5	
LOS	A	A		A	A			C			D	
Approach Delay (s/veh)		8.1			8.1			25.2			36.6	
Approach LOS		A			A			C			D	
Queue Length 50th (ft)	2	44		5	45			35			52	
Queue Length 95th (ft)	11	114		24	124			71			102	
Internal Link Dist (ft)		1094			489			483			395	
Turn Bay Length (ft)	100			75								
Base Capacity (vph)	657	1132		664	1125			756			600	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	

Lane Group	Ø9	Ø10	Ø11	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Satd. Flow (RTOR)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	9	10	11	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	3.0	3.0	3.0	3.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	5%	5%	5%	5%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	0.2	0.2	0.2	0.2
Recall Mode	Max	Max	Max	Max
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.02	0.24		0.06	0.25			0.14			0.22	

Intersection Summary	
Cycle Length: 92.4	
Actuated Cycle Length: 73.7	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay (s/veh): 14.8	Intersection LOS: B
Intersection Capacity Utilization 43.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: 3rd Street & Main Street



Lane Group	Ø9	Ø10	Ø11	Ø12
Storage Cap Reductn				
Reduced v/c Ratio				

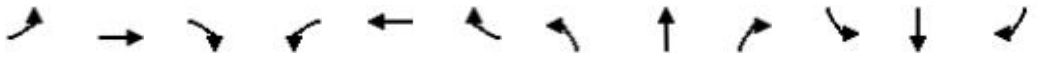
Intersection Summary

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	183	18	11	202	4	19	169	24	15	127	20
Future Vol, veh/h	17	183	18	11	202	4	19	169	24	15	127	20
Peak Hour Factor	0.88	0.88	0.88	0.94	0.94	0.94	0.64	0.64	0.64	0.77	0.77	0.77
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	27	0	0
Mvmt Flow	19	208	20	12	215	4	30	264	38	19	165	26
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	13.8	13.8	15.8	13.7
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	9%	100%	0%	100%	0%	9%
Vol Thru, %	80%	0%	91%	0%	98%	78%
Vol Right, %	11%	0%	9%	0%	2%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	212	17	201	11	206	162
LT Vol	19	17	0	11	0	15
Through Vol	169	0	183	0	202	127
RT Vol	24	0	18	0	4	20
Lane Flow Rate	331	19	228	12	219	210
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.543	0.039	0.421	0.024	0.409	0.384
Departure Headway (Hd)	5.905	7.216	6.64	7.232	6.718	6.576
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	613	497	544	495	537	547
Service Time	3.933	4.943	4.367	4.972	4.446	4.62
HCM Lane V/C Ratio	0.54	0.038	0.419	0.024	0.408	0.384
HCM Control Delay, s/veh	15.8	10.2	14.1	10.2	14	13.7
HCM Lane LOS	C	B	B	B	B	B
HCM 95th-tile Q	3.3	0.1	2.1	0.1	2	1.8

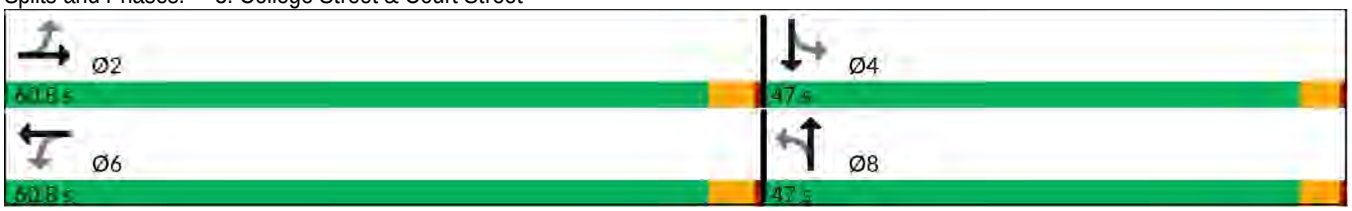


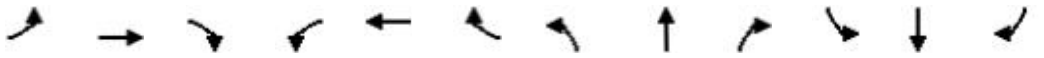
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	280	19	21	285	15	22	140	26	46	129	50
Future Volume (vph)	49	280	19	21	285	15	22	140	26	46	129	50
Satd. Flow (prot)	1805	1865	0	1517	1869	0	1805	1856	0	1805	1820	0
Flt Permitted	0.527			0.500			0.630			0.597		
Satd. Flow (perm)	1001	1865	0	798	1869	0	1197	1856	0	1134	1820	0
Satd. Flow (RTOR)		5			4			10			22	
Peak Hour Factor	0.78	0.78	0.78	0.83	0.83	0.83	0.63	0.63	0.63	0.88	0.88	0.88
Heavy Vehicles (%)	0%	1%	0%	19%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	63	359	24	25	343	18	35	222	41	52	147	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	383	0	25	361	0	35	263	0	52	204	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		7.0	7.0		7.0	7.0		8.0	8.0	
Minimum Split (s)	22.1	22.1		24.1	24.1		23.7	23.7		22.7	22.7	
Total Split (s)	60.8	60.8		60.8	60.8		47.0	47.0		47.0	47.0	
Total Split (%)	56.4%	56.4%		56.4%	56.4%		43.6%	43.6%		43.6%	43.6%	
Maximum Green (s)	56.7	56.7		56.7	56.7		43.3	43.3		43.3	43.3	
Yellow Time (s)	3.6	3.6		3.6	3.6		3.2	3.2		3.2	3.2	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.1	4.1		4.1	4.1		3.7	3.7		3.7	3.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		13.0	13.0		13.0	13.0		12.0	12.0	
Pedestrian Calls (#/hr)	4	4		4	4		3	3		8	8	
Act Effct Green (s)	11.3	11.3		11.3	11.3		10.1	10.1		10.4	10.4	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.34	0.34		0.35	0.35	
v/c Ratio	0.16	0.54		0.08	0.50		0.08	0.41		0.13	0.31	
Control Delay (s/veh)	8.2	10.9		7.7	10.4		8.0	9.9		8.4	8.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	8.2	10.9		7.7	10.4		8.0	9.9		8.4	8.4	
LOS	A	B		A	B		A	A		A	A	
Approach Delay (s/veh)		10.6			10.3			9.7			8.4	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	5	32		2	30		3	24		4	16	
Queue Length 95th (ft)	24	107		14	110		12	55		23	63	
Internal Link Dist (ft)		368			718			396			205	
Turn Bay Length (ft)	80			80			50			90		
Base Capacity (vph)	1001	1865		798	1869		1174	1821		1113	1786	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.06	0.21		0.03	0.19		0.03	0.14		0.05	0.11	

Intersection Summary	
Cycle Length: 107.8	
Actuated Cycle Length: 29.8	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay (s/veh): 9.9	Intersection LOS: A
Intersection Capacity Utilization 51.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: College Street & Court Street



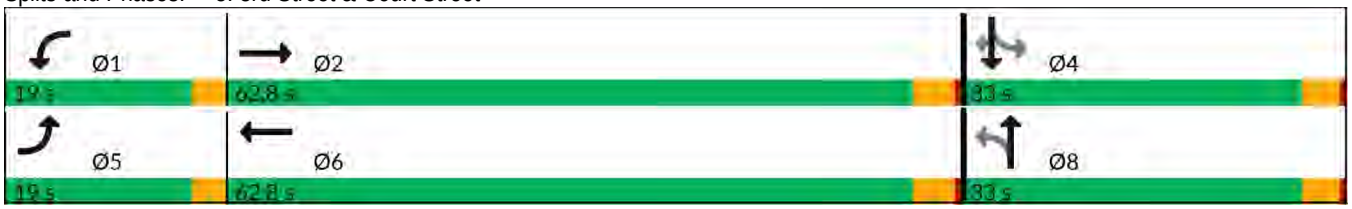


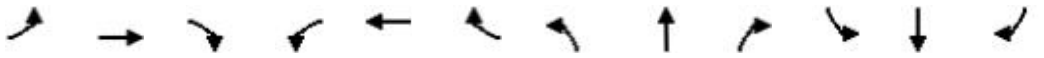
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	241	29	4	331	13	21	70	8	5	58	36
Future Volume (vph)	45	241	29	4	331	13	21	70	8	5	58	36
Satd. Flow (prot)	1770	1853	0	1805	1889	0	0	1768	0	0	1892	1568
Flt Permitted	0.950			0.950				0.919			0.969	
Satd. Flow (perm)	1770	1853	0	1805	1889	0	0	1643	0	0	1841	1568
Satd. Flow (RTOR)		8			3			4				41
Peak Hour Factor	0.91	0.91	0.91	0.93	0.93	0.93	0.81	0.81	0.81	0.88	0.88	0.88
Heavy Vehicles (%)	2%	1%	0%	0%	0%	0%	24%	0%	0%	0%	0%	3%
Adj. Flow (vph)	49	265	32	4	356	14	26	86	10	6	66	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	297	0	4	370	0	0	122	0	0	72	41
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Detector Phase	5	2		1	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	3.0	7.0		3.0	7.0		3.0	3.0		7.0	7.0	7.0
Minimum Split (s)	9.5	19.1		6.0	19.1		19.7	19.7		19.7	19.7	19.7
Total Split (s)	19.0	62.8		19.0	62.8		33.0	33.0		33.0	33.0	33.0
Total Split (%)	16.6%	54.7%		16.6%	54.7%		28.7%	28.7%		28.7%	28.7%	28.7%
Maximum Green (s)	16.0	58.7		16.0	58.7		29.3	29.3		29.3	29.3	29.3
Yellow Time (s)	3.0	3.6		3.0	3.6		3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	0.0	0.5		0.0	0.5		0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	3.0	4.1		3.0	4.1			3.7			3.7	3.7
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.2		1.0	1.2		1.2	1.2		1.2	1.2	1.2
Recall Mode	None	None		None	None		None	None		None	None	None
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		8.0			8.0		9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)		5			4		11	11		3	3	3
Act Effct Green (s)	5.6	16.6		4.6	14.9			8.7			10.2	10.2
Actuated g/C Ratio	0.19	0.56		0.15	0.50			0.29			0.34	0.34
v/c Ratio	0.14	0.28		0.01	0.39			0.25			0.11	0.07
Control Delay (s/veh)	16.9	7.4		18.7	10.5			12.5			11.6	5.6
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay (s/veh)	16.9	7.4		18.7	10.5			12.5			11.6	5.6
LOS	B	A		B	B			B			B	A
Approach Delay (s/veh)		8.8			10.7			12.6			9.5	
Approach LOS		A			B			B			A	
Queue Length 50th (ft)	5	21		1	28			11			7	0
Queue Length 95th (ft)	38	110		8	156			51			37	16
Internal Link Dist (ft)		304			385			395			180	
Turn Bay Length (ft)	80			80								40
Base Capacity (vph)	1076	1853		1097	1889			1433			1605	1372
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.05	0.16		0.00	0.20			0.09			0.04	0.03

Intersection Summary	
Cycle Length: 114.8	
Actuated Cycle Length: 29.8	
Natural Cycle: 50	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.39	
Intersection Signal Delay (s/veh): 10.1	Intersection LOS: B
Intersection Capacity Utilization 43.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: 3rd Street & Court Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	421	14	25	352	34	14	62	36	76	80	27
Future Volume (vph)	11	421	14	25	352	34	14	62	36	76	80	27
Satd. Flow (prot)	1805	1872	0	1805	1851	0	0	1807	0	0	1825	0
Flt Permitted	0.443			0.407				0.951			0.743	
Satd. Flow (perm)	842	1872	0	773	1851	0	0	1729	0	0	1383	0
Satd. Flow (RTOR)		2			7			27			10	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	1%	0%	0%	0%	15%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	12	463	15	28	391	38	17	76	44	93	98	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	478	0	28	429	0	0	137	0	0	224	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	21.7	21.7		19.7	19.7		26.7	26.7		21.7	21.7	
Total Split (s)	49.4	49.4		49.4	49.4		33.0	33.0		33.0	33.0	
Total Split (%)	53.5%	53.5%		53.5%	53.5%		35.7%	35.7%		35.7%	35.7%	
Maximum Green (s)	45.7	45.7		45.7	45.7		29.3	29.3		29.3	29.3	
Yellow Time (s)	3.2	3.2		3.2	3.2		3.2	3.2		3.2	3.2	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	3.7	3.7		3.7	3.7			3.7			3.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		9.0	9.0		16.0	16.0		11.0	11.0	
Pedestrian Calls (#/hr)	12	12		2	2		3	3		7	7	
Act Effct Green (s)	45.9	45.9		45.9	45.9			14.4			14.4	
Actuated g/C Ratio	0.59	0.59		0.59	0.59			0.19			0.19	
v/c Ratio	0.02	0.43		0.06	0.39			0.40			0.85	
Control Delay (s/veh)	8.7	11.2		8.9	10.6			25.1			56.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay (s/veh)	8.7	11.2		8.9	10.6			25.1			56.7	
LOS	A	B		A	B			C			E	
Approach Delay (s/veh)		11.2			10.5			25.1			56.7	
Approach LOS		B			B			C			E	
Queue Length 50th (ft)	2	113		5	97			47			101	
Queue Length 95th (ft)	11	232		20	201			84			156	
Internal Link Dist (ft)		1094			489			483			395	
Turn Bay Length (ft)	100			75								
Base Capacity (vph)	497	1105		456	1095			671			529	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	

Lane Group	Ø9	Ø10	Ø11	Ø12
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Satd. Flow (RTOR)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	9	10	11	12
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	3.0	3.0	3.0	3.0
Minimum Split (s)	5.0	5.0	5.0	5.0
Total Split (s)	5.0	5.0	5.0	5.0
Total Split (%)	5%	5%	5%	5%
Maximum Green (s)	3.0	3.0	3.0	3.0
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	0.2	0.2	0.2	0.2
Recall Mode	Max	Max	Max	Max
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.02	0.43		0.06	0.39			0.20			0.42	

Intersection Summary	
Cycle Length: 92.4	
Actuated Cycle Length: 77.7	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay (s/veh): 20.2	Intersection LOS: C
Intersection Capacity Utilization 46.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: 3rd Street & Main Street

Lane Group	Ø9	Ø10	Ø11	Ø12
Storage Cap Reductn				
Reduced v/c Ratio				

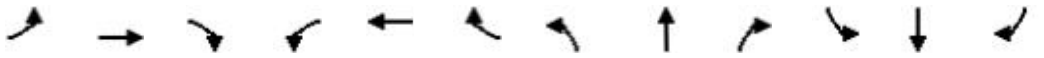
Intersection Summary

Intersection	
Intersection Delay, s/veh	20.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	347	20	28	327	24	12	120	35	35	116	32
Future Vol, veh/h	28	347	20	28	327	24	12	120	35	35	116	32
Peak Hour Factor	0.97	0.97	0.97	0.94	0.94	0.94	0.95	0.95	0.95	0.75	0.75	0.75
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	11	0	0
Mvmt Flow	29	358	21	30	348	26	13	126	37	47	155	43
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	23.9	23.3	14	16.6
HCM LOS	C	C	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	7%	100%	0%	100%	0%	19%
Vol Thru, %	72%	0%	95%	0%	93%	63%
Vol Right, %	21%	0%	5%	0%	7%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	167	28	367	28	351	183
LT Vol	12	28	0	28	0	35
Through Vol	120	0	347	0	327	116
RT Vol	35	0	20	0	24	32
Lane Flow Rate	176	29	378	30	373	244
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.348	0.059	0.714	0.061	0.705	0.481
Departure Headway (Hd)	7.117	7.345	6.793	7.355	6.793	7.098
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	503	486	530	485	530	505
Service Time	5.205	5.115	4.563	5.124	4.562	5.177
HCM Lane V/C Ratio	0.35	0.06	0.713	0.062	0.704	0.483
HCM Control Delay, s/veh	14	10.6	24.9	10.6	24.3	16.6
HCM Lane LOS	B	B	C	B	C	C
HCM 95th-tile Q	1.5	0.2	5.7	0.2	5.6	2.6

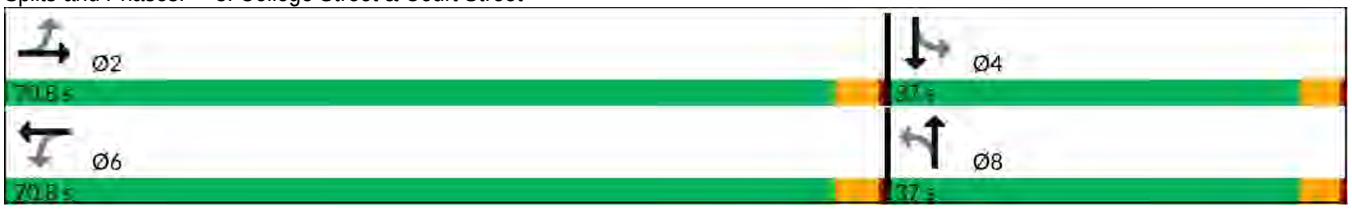


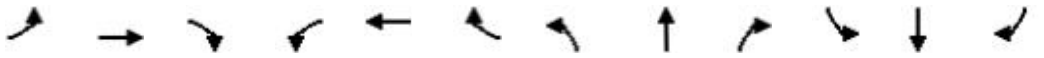
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	354	37	32	401	33	36	94	37	40	113	60
Future Volume (vph)	39	354	37	32	401	33	36	94	37	40	113	60
Satd. Flow (prot)	1805	1873	0	1597	1879	0	1805	1818	0	1805	1801	0
Flt Permitted	0.452			0.499			0.639			0.665		
Satd. Flow (perm)	859	1873	0	839	1879	0	1214	1818	0	1264	1801	0
Satd. Flow (RTOR)		9			7			19			26	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.91	0.91	0.91	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	13%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	41	377	39	34	427	35	40	103	41	43	123	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	416	0	34	462	0	40	144	0	43	188	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		7.0	7.0		7.0	7.0		8.0	8.0	
Minimum Split (s)	22.1	22.1		24.1	24.1		23.7	23.7		22.7	22.7	
Total Split (s)	70.8	70.8		70.8	70.8		37.0	37.0		37.0	37.0	
Total Split (%)	65.7%	65.7%		65.7%	65.7%		34.3%	34.3%		34.3%	34.3%	
Maximum Green (s)	66.7	66.7		66.7	66.7		33.3	33.3		33.3	33.3	
Yellow Time (s)	3.6	3.6		3.6	3.6		3.2	3.2		3.2	3.2	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.1	4.1		4.1	4.1		3.7	3.7		3.7	3.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		13.0	13.0		13.0	13.0		12.0	12.0	
Pedestrian Calls (#/hr)	12	12		9	9		14	14		8	8	
Act Effct Green (s)	14.5	14.5		14.5	14.5		10.6	10.6		11.1	11.1	
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.38	0.38		0.40	0.40	
v/c Ratio	0.09	0.42		0.07	0.46		0.08	0.20		0.08	0.25	
Control Delay (s/veh)	7.3	8.7		7.3	9.2		8.3	7.9		8.3	8.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	7.3	8.7		7.3	9.2		8.3	7.9		8.3	8.0	
LOS	A	A		A	A		A	A		A	A	
Approach Delay (s/veh)		8.6			9.1			8.0			8.1	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)	3	35		2	41		4	11		4	15	
Queue Length 95th (ft)	21	143		18	164		20	47		21	59	
Internal Link Dist (ft)		368			718			396			205	
Turn Bay Length (ft)	80			80			50			90		
Base Capacity (vph)	859	1873		839	1879		1140	1709		1187	1693	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.05	0.22		0.04	0.25		0.04	0.08		0.04	0.11	

Intersection Summary	
Cycle Length: 107.8	
Actuated Cycle Length: 27.8	
Natural Cycle: 50	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay (s/veh): 8.6	Intersection LOS: A
Intersection Capacity Utilization 57.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: College Street & Court Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	311	34	9	408	16	63	62	22	6	54	35
Future Volume (vph)	55	311	34	9	408	16	63	62	22	6	54	35
Satd. Flow (prot)	1770	1872	0	1597	1889	0	0	1762	0	0	1890	1568
Flt Permitted	0.950			0.950				0.829			0.966	
Satd. Flow (perm)	1770	1872	0	1597	1889	0	0	1492	0	0	1835	1568
Satd. Flow (RTOR)		9			3			7				67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	0%	0%	13%	0%	0%	8%	0%	0%	0%	0%	3%
Adj. Flow (vph)	60	338	37	10	443	17	72	71	25	7	62	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	375	0	10	460	0	0	168	0	0	69	40
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Detector Phase	5	2		1	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	3.0	7.0		3.0	7.0		3.0	3.0		7.0	7.0	7.0
Minimum Split (s)	6.0	19.1		6.0	19.1		19.7	19.7		19.7	19.7	19.7
Total Split (s)	16.0	72.8		8.0	64.8		34.0	34.0		34.0	34.0	34.0
Total Split (%)	13.9%	63.4%		7.0%	56.4%		29.6%	29.6%		29.6%	29.6%	29.6%
Maximum Green (s)	13.0	68.7		5.0	60.7		30.3	30.3		30.3	30.3	30.3
Yellow Time (s)	3.0	3.6		3.0	3.6		3.2	3.2		3.2	3.2	3.2
All-Red Time (s)	0.0	0.5		0.0	0.5		0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	3.0	4.1		3.0	4.1			3.7			3.7	3.7
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	1.2		3.0	1.2		1.2	1.2		1.2	1.2	1.2
Recall Mode	None	None		None	None		None	None		None	None	None
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		8.0			8.0		9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)		4			5		5	5		12	12	12
Act Effct Green (s)	9.4	24.4		7.2	20.2			10.6			12.1	12.1
Actuated g/C Ratio	0.24	0.63		0.19	0.52			0.28			0.31	0.31
v/c Ratio	0.13	0.31		0.03	0.46			0.40			0.11	0.07
Control Delay (s/veh)	20.0	6.8		23.8	12.7			19.3			16.5	3.1
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay (s/veh)	20.0	6.8		23.8	12.7			19.3			16.5	3.1
LOS	C	A		C	B			B			B	A
Approach Delay (s/veh)		8.7			13.0			19.3			11.6	
Approach LOS		A			B			B			B	
Queue Length 50th (ft)	13	34		2	88			34			14	0
Queue Length 95th (ft)	50	138		16	213			98			47	11
Internal Link Dist (ft)		304			385			395			180	
Turn Bay Length (ft)	80			80								40
Base Capacity (vph)	799	1872		297	1875			1140			1400	1212
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.08	0.20		0.03	0.25			0.15			0.05	0.03

Intersection Summary	
Cycle Length: 114.8	
Actuated Cycle Length: 38.5	
Natural Cycle: 55	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.46	
Intersection Signal Delay (s/veh): 12.2	Intersection LOS: B
Intersection Capacity Utilization 50.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: 3rd Street & Court Street