CITY OF ALBUQUERQUE

September 21, 2015

Savina Garcia, PE
Wilson & Company, Inc.
4900 Lang Avenue NE
Albuquerque, NM 87109

RE: **Solid Waste Management Department Transfer Station**
Traffic Impact Study
Date: September 2015 (File: G15-D202)

Dear Ms. Savina Garcia:

1. Provide queuing analysis at Comanche/Edith intersection. How do the westbound left-turn and northbound right-turn movements function with the additional transfer trucks during peak periods?

2. For the LOS results on Tables 2 to 4, the font is a little small. Please enlarge these sheets to an 11X17 size.

3. In addition to Figures 7 and 8, also include a separate Figure in between Figures 7 and 8 just showing the new trips. However minimal, it appears that at least some amount of traffic ought to be added for the convenience center traffic on Figure 8 for the 2nd and 4th Street intersections on Griegos for a true comparison. Figure 7 and Figure 8 volumes are matching exactly for these intersections.

4. On Figure 8, when looking at overall chart showing new and existing traffic, it appears that for the AM, new trips ought to be added to Comanche/I-25 for northbound left-turn traffic on Figure 8. Revise LOS calculations accordingly.

5. For the final copy, make sure that the chart showing the existing and new trips is attached to the back of the report and referenced in the body of the report. Include a section in the body of the report for AM/PM/Noon peak periods, showing how many new trips are added at each intersection. These new trips should correspond to the chart.

   The chart includes a lot of language such as "average per hour" new trips, but it is helpful to show a tabular summary of actual new trips during peak periods for each intersection. Then provide a discussion about how these generated new trips do or do not meet warranting criteria for the City of Albuquerque as well as for the other agencies that are impacted.

PO Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

6. Seek necessary comments and approval from NMDOT and the County on the study.

If you have any questions, you can contact me at 924-3993.

Sincerely,

Jeanne Wolfenbarger, P.E.
Senior Engineer, Planning Dept.
Development Review Services

Orig: Drainage file
c.pdf Addressee via Email

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: Edith Transfer Station Building Permit #: _____ City Drainage #: G15D202

DRB#: _____ EPC#: 1010582 Work Order#: _____

Legal Description: 107B1A1, 107B1A2, 108A3A1A, 108A3A1B, 108A3B, 108A1A2B2, 108A1A2B1B, 108A1A2B1A, 107B2A1 - MRGCD Map 33

City Address: 4600 Edith Boulevard NE, Albuquerque, NM

Engineering Firm: Wilson & Company, Inc Contact Savina Garcia

Address: 4900 Lang Avenue NE, Albuquerque, NM 87109

Phone#: 505 348 4000 Fax#: 505 348 4055 E-mail: sgarcia@wilsonco com

Owner: City of Albuquerque, Department of Municipal Development Contact: Jerry Francis

Address: P O Box 1293, Albuquerque, NM 87103

Phone#: 505 768 3083 Fax#: 5053768 2310 E-mail: jfrancis@cabq gov

Architect: _____ Contact: _____

Address: _____

Phone#: _____ Fax#. _____ E-mail: _____

Other Contact: _____ Contact: _____

Address: _____

Phone#: _____ Fax# _____ E-mail: _____

Check all that Apply.

DEPARTMENT:

____ HYDROLOGY/ DRAINAGE

XXXX TRAFFIC/ TRANSPORTATION

____ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

____ ENGINEER/ ARCHITECT CERTIFICATION

____ CONCEPTUAL G & D PLAN

____ GRADING PLAN

____ DRAINAGE MASTER PLAN

____ DRAINAGE REPORT

____ CLOMR/LOMR

____ TRAFFIC CIRCULATION LAYOUT (TCL)

XXXX TRAFFIC IMPACT STUDY (TIS)

____ EROSION & SEDIMENT CONTROL PLAN (ESC)

____ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

____ BUILDING PERMIT APPROVAL

____ CERTIFICATE OF OCCUPANCY

____ PRELIMINARY PLAT APPROVAL

____ SITE PLAN FOR SUB'D APPROVAL

X SITE PLAN FOR BLDG. PERMIT APPROVAL

____ FINAL PLAT APPROVAL

SIA/ RELEASE OF FINANCIAL GUARANTEE

____ FOUNDATION PERMIT APPROVAL

____ GRADING PERMIT APPROVAL

____ SO-19 APPROVAL

____ PAVING PERMIT APPROVAL

____ GRADING/ PAD CERTIFICATION

____ WORK ORDER APPROVAL

____ CLOMR/LOMR

____ PRE-DESIGN MEETING

XXXX OTHER (SPECIFY) Zone Map Amend , Site Dev Plan for Bldg Permit

IS THIS A RESUBMITTAL?: ____ Yes XXXX No

DATE SUBMITTED: 9/14/2015 By: Savina Garcia

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED RM

WILSON & COMPANY

4900 Lang Ave. NE
Albuquerque, New Mexico 87109
(505) 348-4000
Fax (505) 348-4055

TRANSMITTAL

Date:	9/14/2015
Job No.:	12100216 00 / 14100132 00
	Edith Transfer Station
	Project 1010582

To: City of Albuquerque
Planning
Plaza del Sol 4th Fl.

Attn: Jeanne Wolfenbarger

WE ARE SENDING YOU ☒ Attached ☐ Under Separate Cover via _____ the following items:

☐ Shop Drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☒ TIA

Copies	Date	Pages/Sheets	Description
2			Edith Transfer Station TIA
2			Weekday Traffic Pattern Exhibit

THESE ARE TRANSMITTED AS CHECKED BELOW:

☐ For approval/signature ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☒ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Return _____ copies ☐ Return _____ corrected prints
☒ For review and comment ☐ _____
☐ FOR BIDS DUE _____, 20___ ☐ PRINTS ON LOAN – RETURN TO WCEA AFTER BID

Remarks: Hi Jeanne, Please let me know if you have any questions or need any additional information.
Thank you!
Sawsan
348 4018

COPY TO: File.

RECEIVED
SEP 14 2015
DESIGN REVIEW

SIGNED: _____

RECEIVED BY: Derrick Garcia
DATE: 9/14/2015

WEEKDAY

6:00 AM | 7:00 AM | 8:00 AM | 9:00 AM | 10:00 AM | 11:00 AM | 12:00 PM | 1:00 PM | 2:00 PM | 3:00 PM | 4:00 PM | 5:00 PM

1. 4th Street & Griegos — AM Peak Period (7:00 AM - 8:00 AM) — Existing Intersection Total = 2,677
2. 2nd Street & Griegos — AM Peak Period (7:15 AM - 8:15 AM) — Intersection Total = 2,869
3. Comanche & Edith — AM Peak Period (7:30 AM - 8:30 AM) — Intersection Total = 2,906
5. Comanche & I25 NB Frontage Road — AM Peak Period (7:30 AM - 8:30 AM) — Intersection Total = 3,418
4. Comanche & I25 SB Frontage Road — AM Peak Period (8:30 AM - 9:30 AM) — Intersection Total = 3,225

1. 4th Street & Griegos — Mid-day Peak Period (12:15 PM - 1:15 PM) — Intersection Total = 2,932
2. 2nd Street & Griegos — Mid-day Peak Period (12:15 PM - 1:15 PM) — Intersection Total = 2,291
3. Comanche & Edith — Mid-day Peak Period (12:15 PM - 1:15 PM) — Intersection Total = 2,730
5. Comanche & I25 NB Frontage Road — Mid-day Peak Period (12:15 PM - 1:15 PM) — Intersection Total = 3,012
4. Comanche & I25 SB Frontage Road — Mid-day Peak Period (2:00 PM - 3:00 PM) — Intersection Total = 2,768

1. 4th Street & Griegos — PM Peak Period (4:30 PM - 5:30 PM) — Intersection Total = 4,243
2. 2nd Street & Griegos — PM Peak Period (4:15 PM - 5:15 PM) — Intersection Total = 3,346
3. Comanche & Edith — PM Peak Period (3:45 PM - 4:45 PM) — Intersection Total = 4,069
5. Comanche & I25 NB Frontage Road — PM Peak Period (4:30 PM - 5:30 PM) — Intersection Total = 4,036
4. Comanche & I25 SB Frontage Road — PM Peak Period (4:15 PM - 5:15 PM) — Intersection Total = 3,416

Shift start 6:00 AM Commercial Collection

Commercial collection leave site by 6:20 AM. Existing Trips = 54 out

Commercial Roll-Off Collection trucks (20 trucks) return with first load, and leave to pick up next load for 3.5 loads. New Trips = 70 in / 70 out = 140 total (7:45 AM - 1:00 PM)

Commercial collection trucks return with last load, and park for the day. Existing Trips = 20 in (1:00 PM - 2:30 PM)

Commercial Front-Load & Rear-Load Collection trucks return to site with 1st load, leave site to pick up 2nd load. New Trips = 34 in / 34 out = 68 total (8:30 AM - 10:30 AM)

Commercial Front-Load & Rear-Load Collection trucks return with last load, and park for the day. Existing Trips = 34 in (1:00 PM - 2:30 PM)

Shift start 7:00 AM Residential Commercial

Residential collection leave site by 7:20 AM. Existing Trips = 45 out

First transfer truck leaves 8:30 AM

Residential Collection trucks return to site with 1st load, leave site to pick up 2nd load. New Trips = 45 in / 45 out = 90 total (9:30 AM - 11:30 AM)

Residential collection trucks return with last load, and park for the day. Existing Trips = 45 in (2:00 PM -3:30 PM)

Last transfer truck trip out to Cerro Colorado

One (1) transfer truck leaves site every 7 min. Average 7 in / 7 out per hour. New Trips = 64 out / 64 in (8:30 AM - 4:00 PM)

Last transfer truck trip - final clean-out. New Trip = 1 out /1 in 5:30 PM

Convenience Center open 8:00 AM

Convenience Center traffic. Average 25 in / 25 out per hour. New Trips = 225 in / 225 out (8:00 AM - 5:00 PM)

Convenience Center AM Peak Usage 9:00 AM - 11:00 AM

Convenience Center PM Peak Usage 2:00 PM - 4:00 PM

X INTERSECTION SUBJECT TO TIA

STUDY AREA — FIGURE 1

WILSON & COMPANY

SOLID WASTE DEPARTMENT (SWD) TRAFFIC IMPACT STUDY
CITY OF ALBUQUERQUE

Comanche Rd.	**16,500** average weekday traffic (MRCOG)	**10,000** approx. average weekend traffic (Counted 04/18 & 04/19)
Edith Blvd.	**14,400** average weekday traffic (MRCOG)	**4500** approx. average weekend traffic (Counted 04/18 & 04/19)

Edith Transfer Station

EXISTING & NEW TRAFFIC

Project No. 7006.92
April 2015

JRM&A ARCHITECTS ENGINEERS PLANNERS | WILSON & COMPANY | CDM Smith | MRWM LANDSCAPE ARCHITECTS

City of Albuquerque
SOLID WASTE MANAGEMENT DEPARTMENT (SWMD)
TRANSFER STATION
TRAFFIC IMPACT ANALYSIS REPORT

September 2015

Prepared for:

City of Albuquerque
New Mexico Department of Transportation
Bernalillo County

Prepared by
Wilson & Company
4900 Lang Avenue, NE
Albuquerque, NM 87109
505-348-4000
Fax 505-348-4055
12-100-216-03 / 14-100-132-00

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1.0 INTRODUCTION AND SUMMARY

This report was prepared in conformance with the Traffic Impact Analysis (TIA) guidelines established by Bernalillo County Public Works Division (BCPWD) in cooperation with the New Mexico Department of Transportation (NMDOT) and City of Albuquerque. It presents information relating to potential traffic impacts associated with the redevelopment of the existing City of Albuquerque Solid Waste Management Department (SWMD) site located on the southeast corner of the intersection of Comanche Road and Edith Boulevard. Redevelopment will include the addition of a new Transfer Station and other site improvements.

a. PURPOSE AND OBJECTIVES

The purpose of this TIA is to evaluate potential impacts of the proposed reconfiguration of the existing SWMD facility and addition of the new Transfer Station. This report also presents a summary of findings related to the analysis of full build-out of the SWMD site with the new Transfer Station and other improvements anticipated to be completed by the Year 2018.

b. SITE LOCATION AND STUDY AREA

The SWMD site is located at 4600 Edith Boulevard in Albuquerque, New Mexico, on the southeast corner of the intersection of Comanche Road and Edith Boulevard. The study area and intersections relevant to this TIA were defined based on input from the City of Albuquerque, NMDOT, and Bernalillo County. The intersections selected for analysis include:

City of Albuquerque/Bernalillo County

Griegos Road & 4th Street
Griegos Road & 2nd Street
Griegos Road/Comanche Road & Edith Boulevard

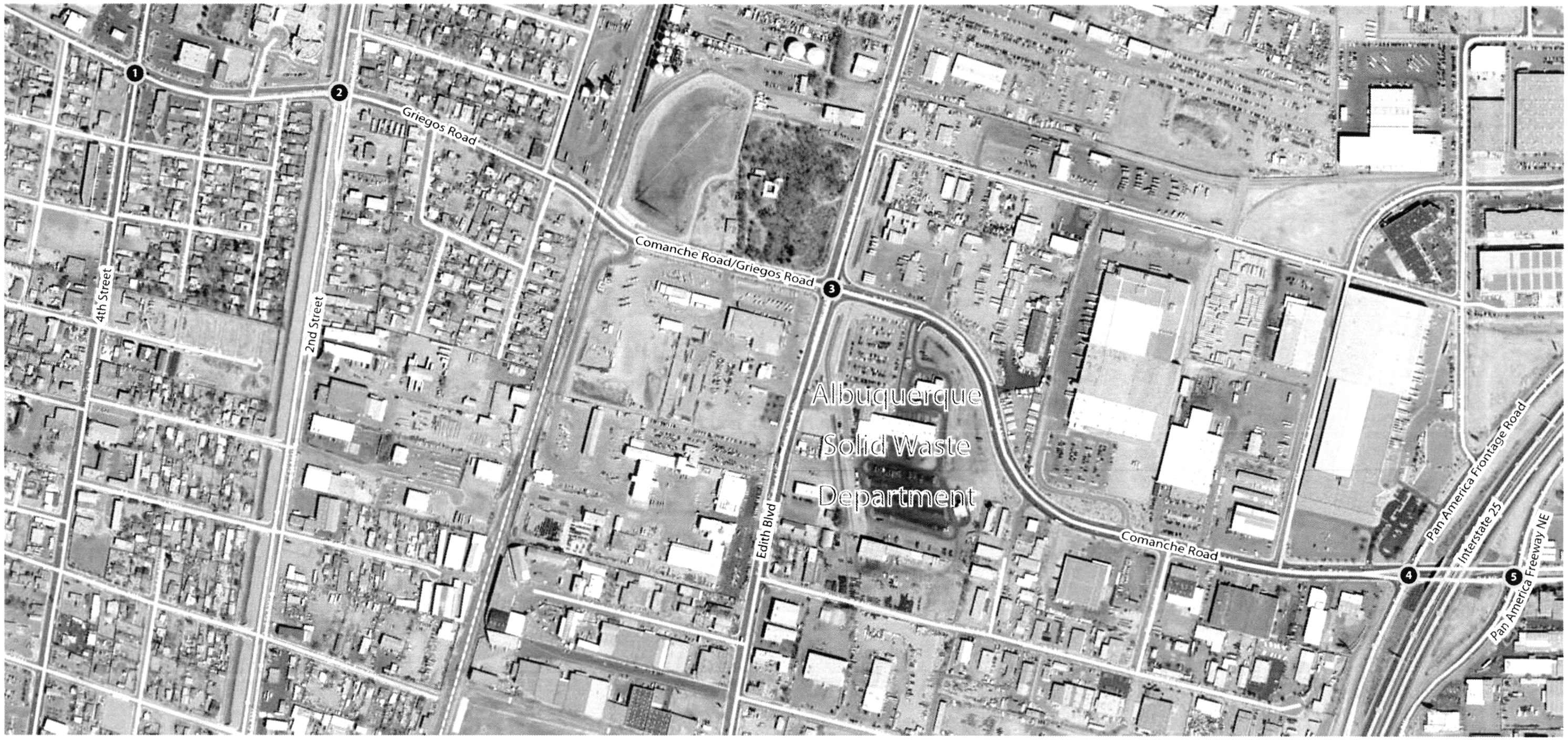
NMDOT

Comanche Road & I-25 Pan American Frontage Road S
Comanche Road & I-25 Pan American Frontage Road N

The study area and location of key intersections are shown in **Figure 1**.

c. BRIEF DESCRIPTION OF THE DEVELOPMENT

The proposed development involves redevelopment of the existing City of Albuquerque SWMD site. The site currently has several buildings and appurtenances including an administration building, vehicle maintenance facilities, fuel island, storage structures and yard for bins and other equipment, parking lots for employees, and recycling drop-off bins; as well as parking for all solid waste and recycling collection vehicles and service vehicles.



X INTERSECTION SUBJECT TO TIA

STUDY AREA

1 FIGURE

WILSON & COMPANY

SOLID WASTE MANAGEMENT DEPARTMENT (SWMD) TRAFFIC IMPACT STUDY
CITY OF ALBQUERQUE

The proposed site will include a Transfer Station/Convenience Center building, Administration building, Vehicle Maintenance building, Household Hazardous Waste building, parking structure, scalehouse, parking for employees and collection (solid waste and recycling) vehicles, parking for service vehicles, bin repair area, and Recycling Drop-Off area.

Access to the existing SWMD site currently is provided via two driveways. The collection truck and fleet storage and maintenance area is accessed via Comanche Road on the north side of the site, approximately 425 feet east of Edith Boulevard. The second access driveway serves the administrative offices. It is located on Edith Boulevard on the west side of the site, approximately 550 feet south of Comanche Road. The proposed reconfiguration will be accomplished in a single phase, and it is anticipated to be complete in 2018.

d. APPROVED SCOPE

The analysis presented herein was conducted in conformance with the Project Scoping Report approved by BCPWD, City of Albuquerque and NMDOT.

e. CONDUCT OF THE STUDY

This report was prepared in conformance with TIA guidelines established by BCPWD. These guidelines require preparation of a TIA, when proposed development actions will result in the generation of 250 additional daily or 25 additional peak-hour trips.

1) Principal Assumptions Used in the Study

- A copy of the TIA guidelines is provided in **Appendix A.**

2) Resources Used in the Study

- The *Highway Capacity Manual, Special Report 209, Updated 2010* (HCM 2010).

3) Traffic Monitoring or Other Field Data Collected for the Study

Peak-hour turning movement counts were collected December 4, 2013, at the following locations:

- Griegos Road & 4th Street
- Griegos Road & 2nd Street
- Griegos Road/Comanche Road & Edith Boulevard.

Additional peak-hour turning movement counts were collected on December 12, 2013, at the following locations:

- Comanche Road & I-25 Pan American Frontage Road S
- Comanche Road & I-25 Pan American Frontage Road N.

The counts covered the AM (6:30–9:30), Mid-Day (11:00-1:30) and PM (3:00-6:30) peak periods. Count data is included in **Appendix B**.

f. FINDINGS AND/OR CONCLUSIONS

Traffic volumes on the adjacent street system were analyzed for weekday AM, Mid-Day, and PM peak periods. Analyses results for existing traffic operations at study area intersections indicate an acceptable Level of Service (LOS) currently is being attained at each intersection with the exception of 4th Street/Griegos Road intersection. This intersection currently operates at LOS F in the PM peak-hour, and it is forecast to operate at LOS F during the PM peak period under the No-Build and With Project conditions, with an intersection delay of 102.9 seconds. The intersection delay does not increase with the addition of project traffic, because no new project trips are expected to enter this intersection during the PM peak period. Analysis results also indicate additional traffic generated following completion of the reconfiguration of the SWMD site in 2018 will not have impacts on forecast year 2018 traffic operations.

2.0 PROPOSED DEVELOPMENT

a. LOCATION

The proposed development involves redevelopment of the existing City of Albuquerque SWMD site. The proposed site will include a Transfer Station/Convenience Center building, Administration building, Vehicle Maintenance building, Household Hazardous Waste building, parking structure, scalehouse, parking for employees and collection (solid waste and recycling) vehicles, parking for service vehicles, bin repair area, and Recycling Drop-Off area.

The SWMD site is located at 4600 Edith Boulevard in Albuquerque, New Mexico, on the southeast corner of the intersection of Comanche Road and Edith Boulevard. The study area and intersections relevant to this TIA were defined based on input from the City of Albuquerque, NMDOT, and Bernalillo County. The intersections selected for analysis include:

City of Albuquerque/Bernalillo County
Griegos Road & 4th Street
Griegos Road & 2nd Street
Griegos Road/Comanche Road & Edith Boulevard

NMDOT
Comanche Road & I-25 Pan American Frontage Road S
Comanche Road & I-25 Pan American Frontage Road N

The study area and location of key intersections were depicted previously in **Figure 1**.

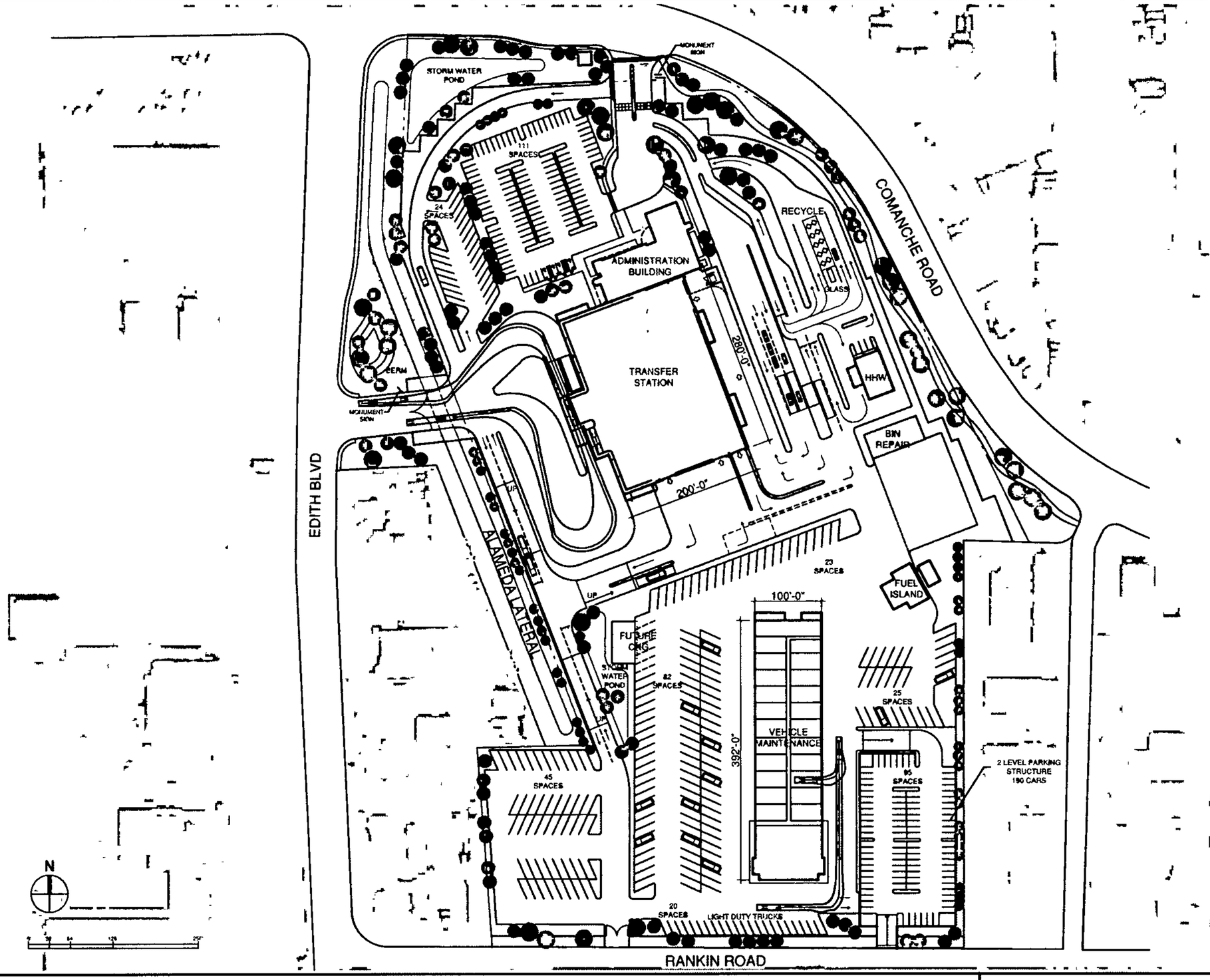
b. Land Use and Intensity

The proposed redevelopment of the SWMD site is anticipated to be complete in 2018. Currently, drivers of collection vehicles break from their routes, when the bins are full, and direct haul to the landfill. With the proposed project, drivers will travel directly to the new Transfer Station, where they unload the collection vehicles. Drivers then will return to their routes for a second load. They would return to unload the collection vehicles and park at the end of their shift. This new plan of operation represents new trips into and out of the study area. Based on preliminary data, there are currently 248 loads per day that are direct hauled to the landfill, which would represent approximately 500 daily directional trips.

The refuse deposited at the Transfer Station will then be transported to the landfill via a fleet of transfer trucks. It is estimated that 65 loads per day, or 130 truck trips, will occur in association with the operation of transfer trucks, moving refuse to the landfill.

c. Site Plan

The site plan developed for this reconfiguration project is depicted in **Figure 2**. Access to the SWMD (existing and proposed) is provided from two driveways: one via Comanche Road, approximately 425 feet east of Edith Boulevard and a second via Edith Boulevard, approximately 550 feet south of Comanche Road. Two access points off of Rankin Road will be generally used by employees.



Edith Transfer Station

City of Albuquerque
Solid Waste Management Department

WILSON & COMPANY

NOTES

- Public self-haul users, visitors and administrative staff enter/exit from Comanche Road NE.
- Collection trucks enter at Comanche Road NE and/or Edith Blvd NE; exit at Edith Blvd NE.
- Transfer trucks enter/exit at Edith Blvd NE.
- Employees (driver/maintenance) enter/exit from Rankin Road and/or Edith Blvd.
- The recycle drop-off and HHW are located east of the transfer station and are directly accessible from the scale entry lanes.

Project Data

Site Area

Total Site Area.	approx. 22 acres

Building Area (Footprint)

Transfer Station:	62,000 SF
Administration:	11,600 SF
Vehicle Maintenance:	40,100 SF
HHW.	3,900 SF
Total SF (Footprint):	117,600 SF

Parking

Standard Parking	301 Spaces
Light Duty Truck Parking:	44 Spaces
Collection Truck Parking:	175 Spaces
Total Parking:	520 Spaces

Site Plan
August 27, 2015

ARCHITECTS ENGINEERS PLANNERS

SWMD No 7006.92 JRMA No. 4907

SITE PLAN

FIGURE 2

No Scale

WILSON & COMPANY

SOLID WASTE DEPARTMENT MANAGEMENT (SWMD) TRAFFIC IMPACT STUDY
CITY OF ALBQUERQUE

3.0 AREA CONDITIONS

a. OFF-SITE STUDY AREA

The following provides a brief description of the study area transportation system.

1) Area of Influence

The following facilities lie within the study area:

- Comanche Road/Griegos Road: This roadway is an east-west arterial facility. Between 4th Street and 2nd Street, two travel lanes exist in each direction with a raised median and left-turn lanes at each intersecting roadway. Between 2nd Street and Carlton Street (just west of the railroad tracks), it narrows to one lane per direction with a center two-way left-turn lane. Two eastbound lanes and a single westbound lane exist east of Carlton Street. East of Edith Boulevard, it widens to two lanes in each direction with a center two-way left-turn lane and left-turn lanes at intersecting roadways, as it continues east to Interstate 25. In the study area, signalized intersections exist at 4th Street, 2nd Street, Edith Boulevard, and at the two Frontage Road intersections at I-25/Pan American Freeway. A school zone exists between 4th Street and 2nd Street in association with La Luz Elementary School, which is located on the north side of Griegos Road.

- Edith Boulevard: This facility is a north-south arterial with a signalized intersection at Griegos Road/Comanche Road. The intersection has a full four-lane arterial cross section with left-turn lanes for each approach. A right-turn lane is provided on the northbound approach to the intersection, and a right-turn/yield ramp (served by through/right turn lane) is provided on the westbound approach on Comanche Road.

- 2nd Street: This roadway is a four-lane, north-south arterial with a raised median in the study area. A signal is located at the intersection of Griegos Road. Left-turn lanes are provided on all approaches to the intersection. A right-turn lane is provided on the southbound approach.

- 4th Street: This facility is a four-lane, north-south arterial in the study area. A signal is located at the intersection of Griegos Road. Left-turn lanes are provided on all approaches to the intersection.

2) Area of Potential Traffic Impact

The area of potential traffic impact is contiguous with the study area (refer to **Figure 1**) and includes the following intersections:

City of Albuquerque/Bernalillo County

Griegos Road & 4th Street
Griegos Road & 2nd Street
Griegos Road/Comanche Road & Edith Boulevard

NMDOT

Comanche Road & I-25 Pan American Frontage Road S
Comanche Road & I-25 Pan American Frontage Road N

Figure 3 illustrates the existing geometry and traffic control at each of these intersections. **Figure 4** illustrates the existing AM, Mid-Day, and PM peak-hour intersection volumes at each intersection.

b. On-Site Study Area

The on-site study area encompasses the site of the existing SWMD as well as the proposed area of redevelopment (refer to **Figure 2**). The proposed project includes:

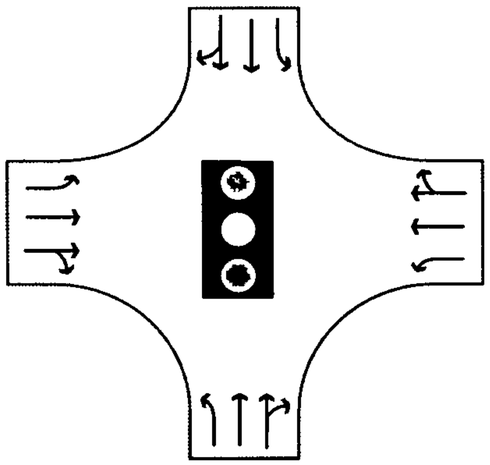
- New Transfer Station/Convenience Center Building;
- New Administration (Office) Building;
- New Vehicle Maintenance Building with maintenance bays and Drive-thru Transfer unit;
- New Household Hazardous Waste Building;
- New Employee Parking Structure;
- New Scalehouse
- New Recycling Drop-Off Area;
- On-Site Circulation for Waste Collection Vehicles; and
- Reconfigured Parking Areas.

1) Area of Influence

The area of influence for the site coincides with the project study area (refer to **Figure 1**).

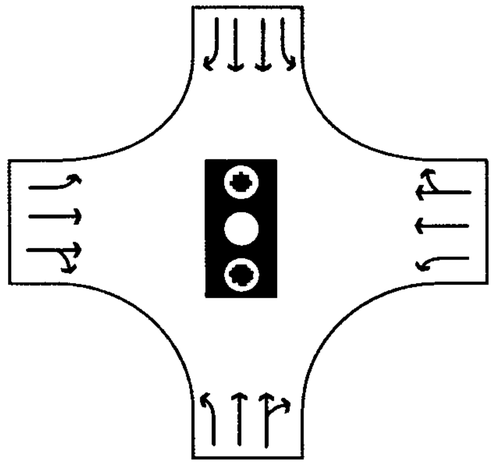
2) Current Phase of Development

The proposed project will occur in a single phase, with the project anticipated to be completed in 2018.



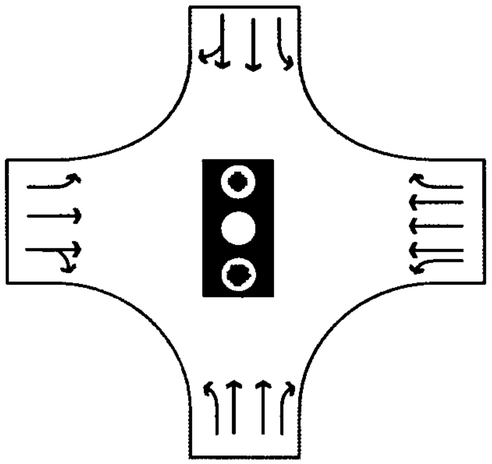
1

GRIEGOS ROAD
AND 4TH STREET



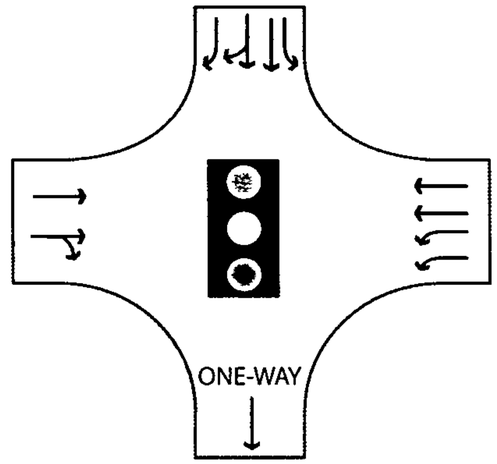
2

GRIEGOS ROAD
AND 2ND STREET



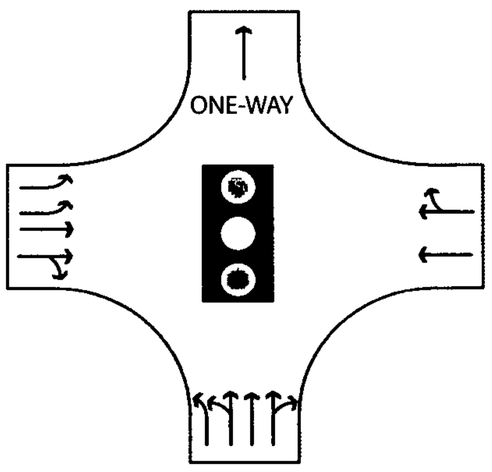
3

COMANCHE ROAD/GRIEGOS ROAD
AND EDITH BOULEVARD



4

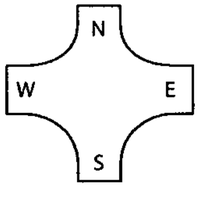
COMANCHE ROAD AND
I-25 PAN AMERICAN FREEWAY
FRONTAGE ROAD (SOUTH)



5

COMANCHE ROAD AND
I-25 PAN AMERICAN FREEWAY
FRONTAGE ROAD (NORTH)

SIGNALIZED INTERSECTION

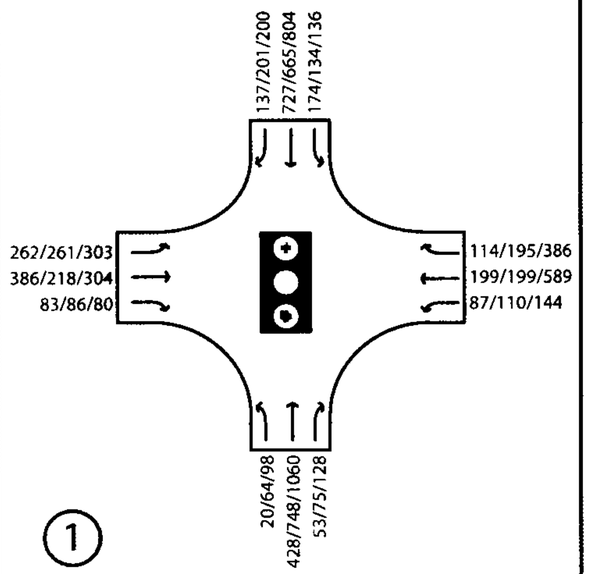


EXISTING INTERSECTION LANE GEOMETRY AND TRAFFIC CONTROL

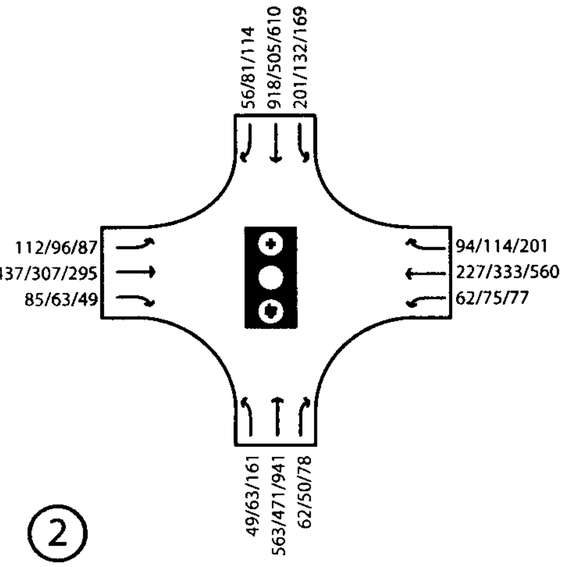
FIGURE 3

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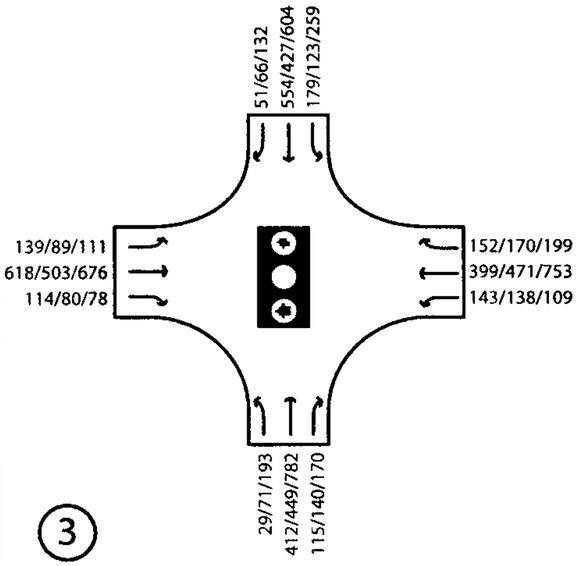
WILSON & COMPANY



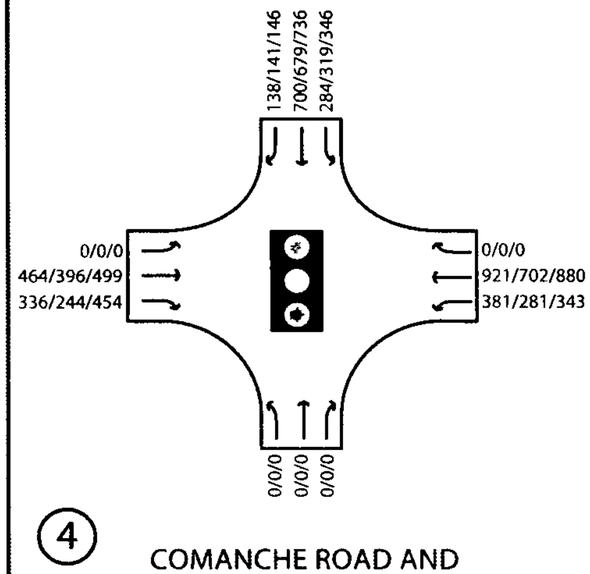
1 GRIEGOS ROAD AND 4TH STREET



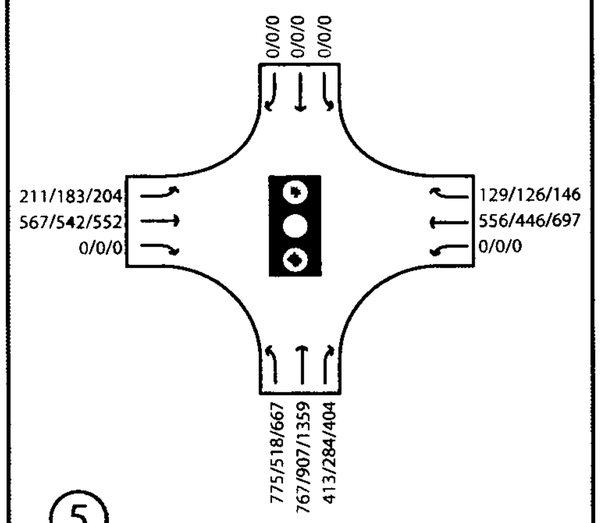
2 GRIEGOS ROAD AND 2ND STREET



3 COMANCHE ROAD/GRIEGOS ROAD AND EDITH BOULEVARD

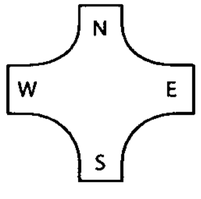


4 COMANCHE ROAD AND I-25 PAN AMERICAN FREEWAY FRONTAGE ROAD (SOUTH)



5 COMANCHE ROAD AND I-25 PAN AMERICAN FREEWAY FRONTAGE ROAD (NORTH)

XX = AM VOLUMES
XX = MID-DAY VOLUMES
XX = PM VOLUMES



YEAR 2013 AM, MID-DAY, AND PM PEAK-HOUR VOLUMES

4 FIGURE

No Scale

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SOLID WASTE MANAGEMENT DEPARTMENT (SWMD) TRAFFIC IMPACT STUDY
CITY OF ALBUQUERQUE

C. SITE ACCESS

1) Existing and Proposed Road System

Access to the existing SWMD is provided from two driveways: one via Comanche Road, approximately 425 feet east of Edith Boulevard and a second via Edith Boulevard, approximately 550 feet south of Comanche Road.

Several modifications are planned to the study area roadway system over the next twenty years. The Mid-Region Council of Governments (MRCOG) *2035 Metropolitan Transportation Plan* indicates the following key roadway network expansion projects in or adjacent to the study area:

- 2nd Street, between Interstate 40 and Montaño Road: widen from four to six lanes (Late-term: 2025-2035);
- Edith Boulevard, between Candelaria Road and Montaño Road: widen from two to five lanes (COMPLETED); and
- Comanche Road at Interstate 25: Interchange Modification (Mid-term: 2015-2025). It has not been programmed and is currently not in the Statewide Transportation Improvement Program (STIP); no funding is available for this project. The intersection geometry will be the same for existing and future years.

2) Existing and Proposed Alternative Mode Systems

Bicycle

Currently, there are Bicycle Lanes provided in the study area along Griegos Road/Comanche Road. Bicycle Routes are located along Edith Road and 2nd Street, where bikes and vehicles share the road.

Public Transit

ABQ Ride offers regular scheduled service (Route 13) at Griegos Road and 2nd Street in the vicinity of the project. The route operates twice during both the AM and PM peak periods, with stops at Comanche Road/2nd Street. Route 10/North 4th Street provides weekday and weekend service through the study area along 4th Street, with a stop at 4th Street/Griegos Road.

3) Improvements to Accommodate Site Traffic

Existing two-way site access drives off Edith Boulevard and Comanche Road will accommodate reconfiguration of site facilities, functions, and circulation. Two driveways at the south end of the site off Rankin Road will generally be used for employee access.

4.0 PROJECTED TRAFFIC

a. GROWTH RATE

Historical traffic data from MRCOG was reviewed to establish an appropriate annual growth rate for travel in the study area. Reviewed data, indicates application of a 1.00% annual growth rate would be reasonable and appropriate for the Year 2018 Opening Day analysis.

b. SITE MOTORIZED VEHICLE TRAFFIC

Collection Vehicle Trip Activity

Currently, the drivers of collection vehicles break from their routes when bins are full and direct haul to the landfill. Subsequent to this proposed reconfiguration and creation of the primary center of operations at the existing SWMD site, drivers will travel directly to the new Transfer Station, where the vehicles will be unloaded. Drivers then will return to their routes. This new process for handling the community's waste represents new trips to/from the study area during the day.

Based on data relating to current SWMD operations, there are currently 248 loads per day directly hauled to the landfill, which would represent approximately 500 daily directional trips. These are existing trips that are part of the existing background traffic, i.e., traffic levels exclusive of any trips associated with this proposed reconfiguration project. Although trips that occur between the collection vehicle routes and the landfill will be removed from the circulation system, these trips occur outside of the project study area and, therefore, have no effect on this analysis.

New trips in the study area will occur as drivers travel to/from the new Transfer Station in association with their respective existing collection routes. However, based on the proposed schedule for the facility and the transfer operation, it is assumed new trips between the Transfer Station and collection routes will occur outside the AM, Mid-Day, or PM peak hours that are being analyzed. Also, because existing collection vehicles currently depart the existing SWMD facility in the AM and arrive back in the PM, those outbound and inbound trips are already accounted for in the existing background traffic. Therefore, the only project-related additional trips anticipated to occur during the peak hours in the study area, as a result of this proposed reconfiguration, are associated with transfer trucks traveling between the new Transfer Station and the landfill.

Transfer Truck Trip Activity

New trips associated with the project will be due to the estimated 65 loads per day, or 130 trips, expected to occur when transfer trucks deliver loads to the landfill. The proposed transfer truck trip activity will generally occur between the hours of 8:30 am to 4:00 pm. After the Convenience Center closes at 5:00 pm, a final transfer truck trip out to the landfill is expected to leave at approximately 5:30 pm. But to provide a conservative, worst case scenario, it is assumed that all 130 trips (65 outbound and 65 inbound); will occur during the Mid-Day or PM peak hour. For purposes of this analysis, it is assumed that half of these trips will occur during the Mid-Day peak hour and the other half during the PM peak hour. New trips will enter and exit the driveway located on Edith Boulevard, south of Comanche Road.

Convenience Center Trip Activity

Data was obtained for the three existing, off-site Convenience Centers (Eagle Rock, Montessa, and Don Reservoir) in the vicinity of the study area. It was determined that data provided for Tuesday would be the most appropriate to use to represent potential diversion of these trips to the new recycling facility. The proposed diversion of trips from these facilities is assumed to be thirty (30) percent of the total customers using these facilities during the AM, Mid-Day, and PM peak hours. Diverted, new trips to the SWMD site were assumed to come to/from location proximate to the existing sites and were distributed to the new facility from those locations. These three existing Convenience Centers are located northeast, southeast, and southwest of the new Convenience Center. Total new trips expected to be diverted from the three existing Convenience Centers to the new Convenience Center are 225 in/225 out each weekday; and 12 in/12 out during the AM peak, 20 in/20 out during the Mid-Day peak, and 16 in/16 out during the PM peak.

Employees

Since no new employees are proposed to be hired for office operations, and their access to office and parking will remain the same, these trips are accounted for in the existing background traffic. Existing and proposed access for the employee parking is located off the driveway on Comanche Road, and Rankin Road at the south end of the site.

Trip Distribution

Transfer trucks will be traveling to/from the Cerro Colorado landfill located southwest of the study area. The most direct route is via Interstate 25 and

Interstate 40. Therefore, all transfer vehicles will travel to and from Interstate 25 via Comanche Road, accessing the site by way of the Edith Boulevard driveway. **Figure 5A** illustrates the resulting distribution of SWMD transfer truck trips in the study area. New trips for the Convenience Center were assumed to come from three existing sites close to the SWMD site. The trips were distributed to the new facility from those locations. The Convenience Center, Household Hazardous Waste, and Recycling Drop-off facilities will be accessed via the Comanche driveway (in/out of the site).

Figure 5B illustrates the resulting distribution of the Convenience Center in the study area. **Figures 6A** illustrates the additional transfer truck project trips at each study area intersection in conjunction with Opening Day (2018) conditions. **Figures 6B** illustrates the additional Convenience Center project trips at each study area intersection in conjunction with Opening Day (2018) conditions.

c. Site Non-Motorized Vehicle and Pedestrian Traffic

Estimates of the level of pedestrian and/or bicycle activity are not known at this time. However, the proposed site reconfiguration is not anticipated to result in any new non-motorized and/or pedestrian trips.

d. Off-Site Traffic

1) Year 2018

As discussed previously, at study area intersections, a 1.00% annual growth rate was applied to existing traffic volumes to arrive at the 2018 background traffic volumes. Resulting Year 2018 No-Build traffic volumes are illustrated in **Figure 7**. The additional project trips associated with the reconfigured SWMD and new Transfer Station project trips, illustrated in **Figure 6,** were added to the Year 2018 No-Build volumes to determine the resulting volumes after opening of the proposed reconfiguration. The resulting volumes are illustrated in **Figure 8.**



Note: All Transfer Truck Tips Enter/Exit Driveway Located on Edith Blvd. South of Comanche

XX% Directional Distribution%

Project Trip Distribution (Transfer Trucks Only)

5A FIGURE

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Solid Waste Management Department (SWMD) Traffic Impact Study
City of Albquerque



Note: All Transfer Truck Tips Enter/Exit Driveway Located on Edith Blvd. South of Comanche

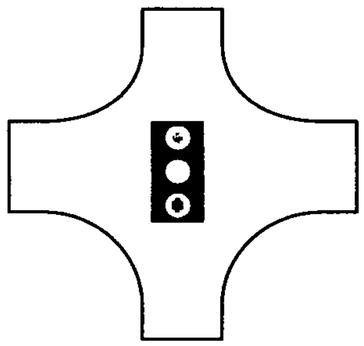
XX% Directional Distribution%

PROJECT TRIP DISTRIBUTION (CONVENIENCE CENTER ONLY)

5B FIGURE

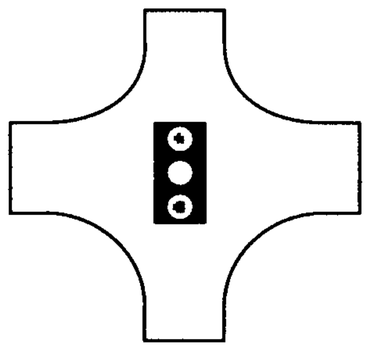
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SOLID WASTE MANAGEMENT DEPARTMENT (SWMD) TRAFFIC IMPACT STUDY
CITY OF ALBQUERQUE



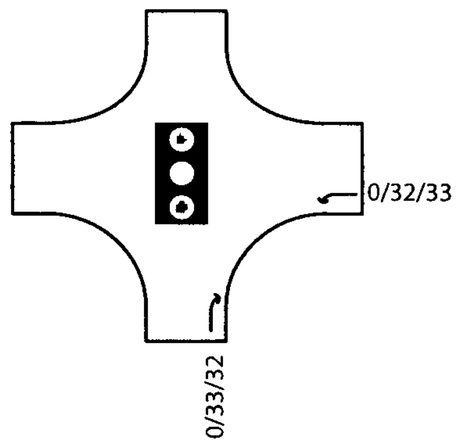
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GRIEGOS ROAD
AND 4TH STREET*



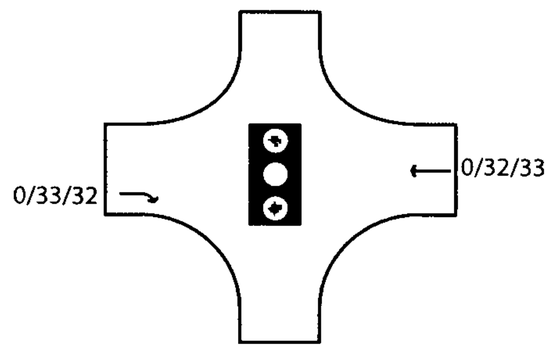
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GRIEGOS ROAD
AND 2ND STREET*



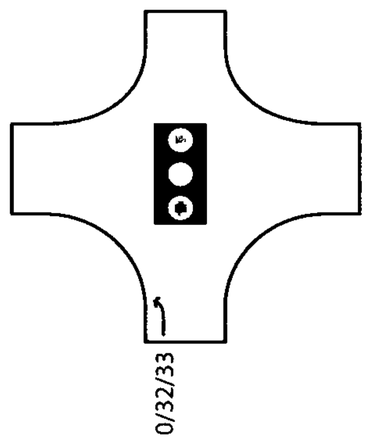
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COMANCHE ROAD/GRIEGOS ROAD
AND EDITH BOULEVARD



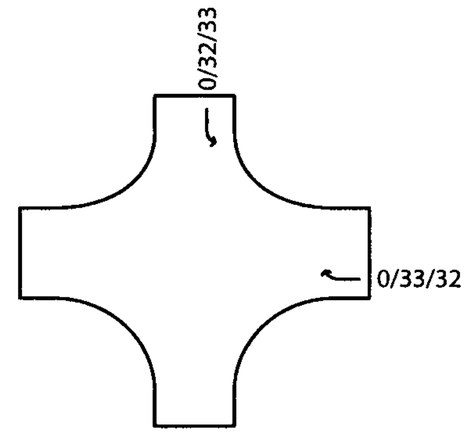
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COMANCHE ROAD AND
PAN AMERICAN FRONTAGE ROAD (SOUTH)



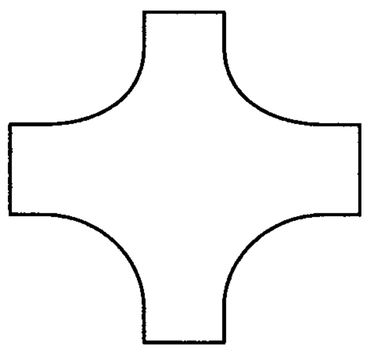
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COMANCHE ROAD AND
PAN AMERICAN FRONTAGE ROAD (NORTH)



6

EDITH/DRIVEWAY



5

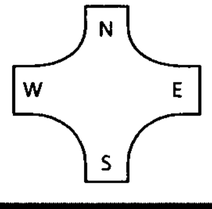
COMANCHE/DRIVEWAY

Note: Includes Truck and Recycling Facility Project Trips

XX = AM VOLUMES

XX = MID-DAY VOLUMES

XX = PM VOLUMES



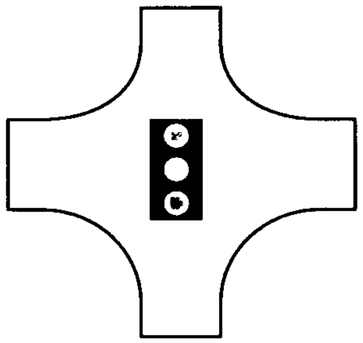
* NOTE: Project does not result in additional traffic at this intersection.

ADDITIONAL (TRANSFER TRUCKS ONLY)
PROJECT TRIPS (YEAR 2018)

6A
FIGURE

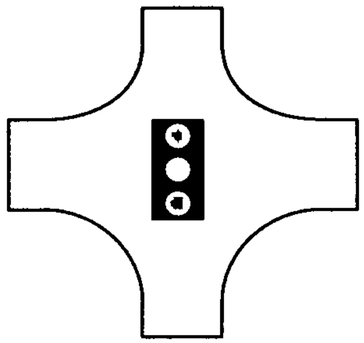
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CITY OF ALBUQUERQUE



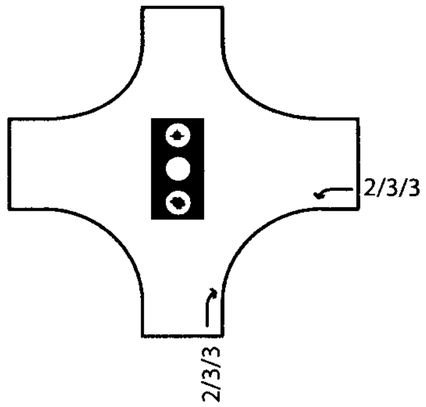
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GRIEGOS ROAD
AND 4TH STREET*



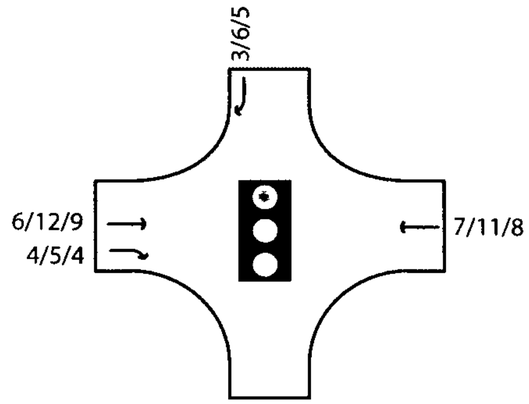
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GRIEGOS ROAD
AND 2ND STREET*



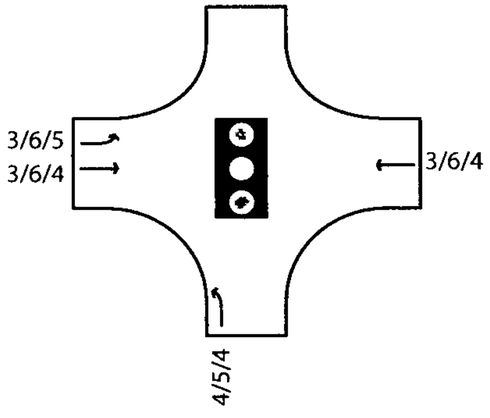
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COMANCHE ROAD/GRIEGOS ROAD
AND EDITH BOULEVARD



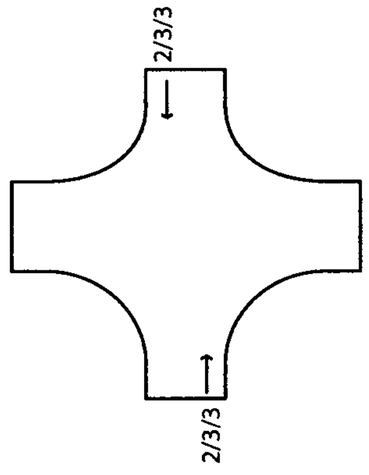
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COMANCHE ROAD AND
PAN AMERICAN FRONTAGE ROAD (SOUTH)



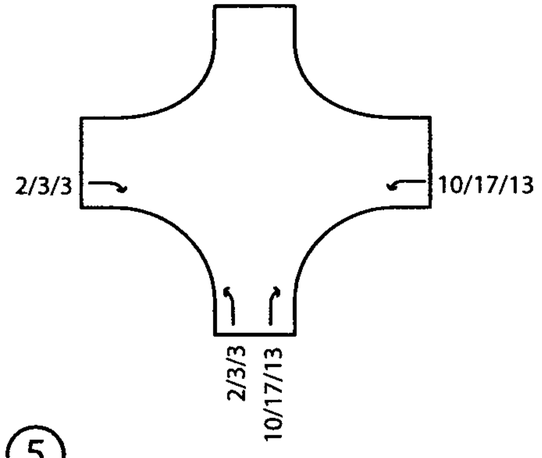
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COMANCHE ROAD AND
PAN AMERICAN FRONTAGE ROAD (NORTH)



6

EDITH/DRIVEWAY



5

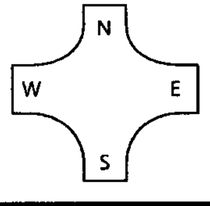
COMANCHE/DRIVEWAY

Note: Includes Truck and Recycling Facility Project Trips

XX = AM VOLUMES

XX = MID-DAY VOLUMES

XX = PM VOLUMES



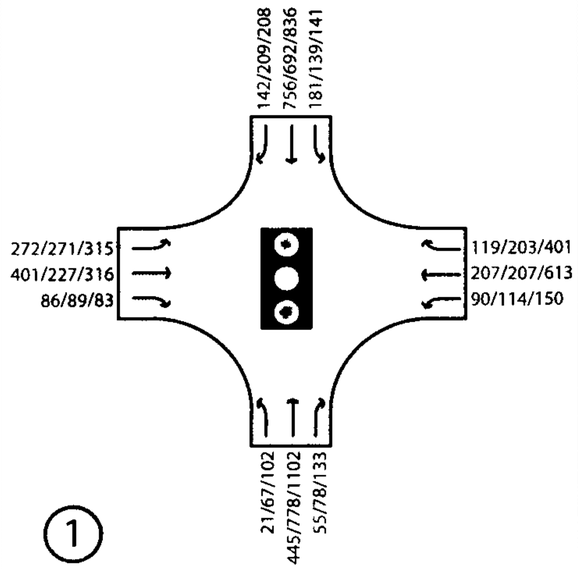
* NOTE: Project does not result in additional traffic at this intersection.

ADDITIONAL (CONVENIENCE CENTER ONLY) PROJECT TRIPS (YEAR 2018)

6B
FIGURE

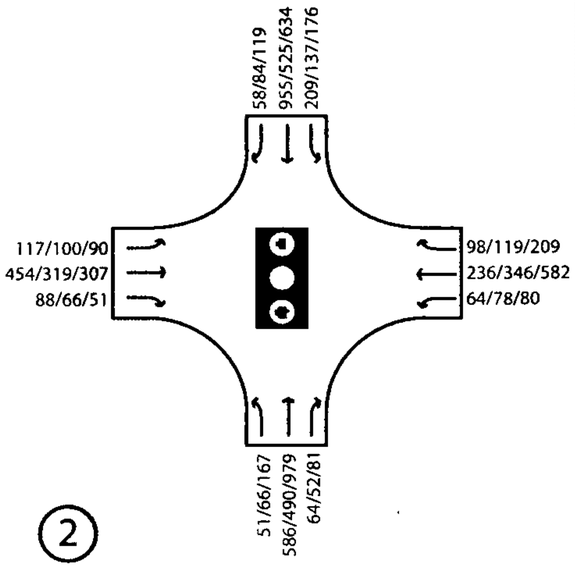
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SOLID WASTE MANAGEMENT DEPARTMENT (SWMD) TRAFFIC IMPACT STUDY
CITY OF ALBUQUERQUE



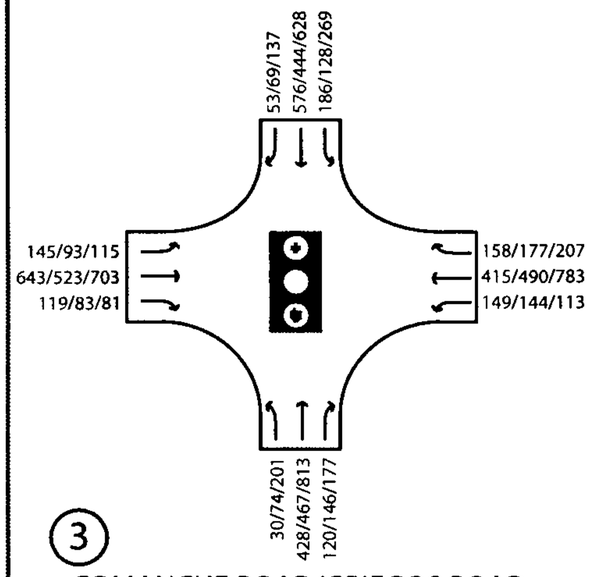
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GRIEGOS ROAD
AND 4TH STREET



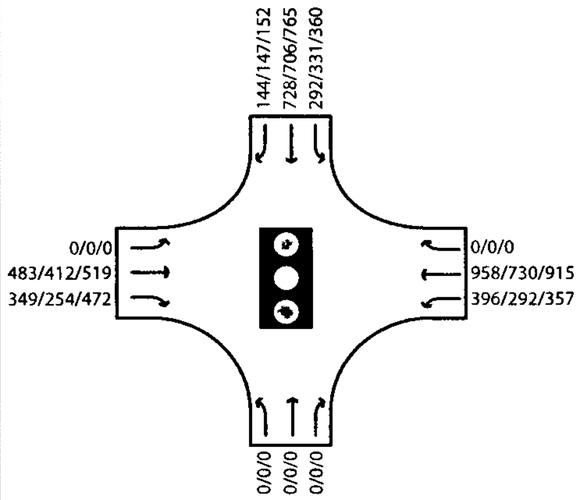
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GRIEGOS ROAD
AND 2ND STREET



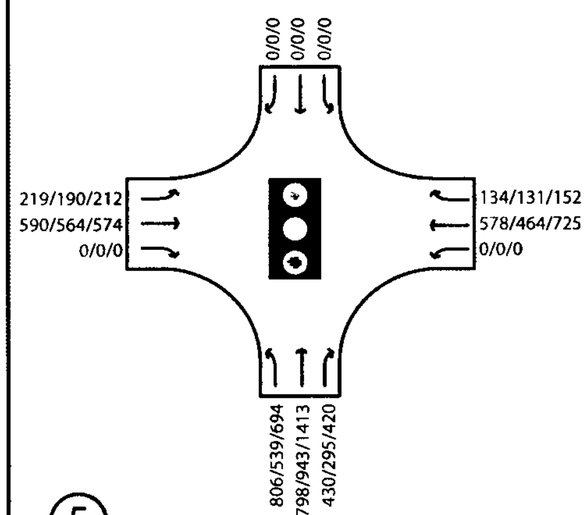
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COMANCHE ROAD/GRIEGOS ROAD
AND EDITH BOULEVARD



4

COMANCHE ROAD AND
I-25 PAN AMERICAN FREEWAY
FRONTAGE ROAD (SOUTH)



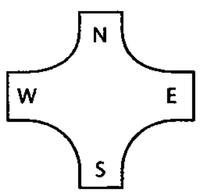
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COMANCHE ROAD AND
I-25 PAN AMERICAN FREEWAY
FRONTAGE ROAD (NORTH)

XX = AM VOLUMES

XX = MID-DAY VOLUMES

XX = PM VOLUMES



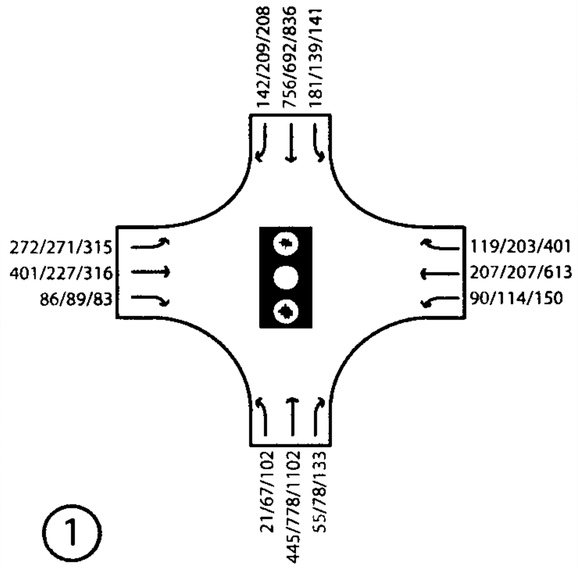
YEAR 2018 NO-BUILD AM, MID-DAY, AND PM PEAK-HOUR VOLUMES

7
FIGURE

No Scale

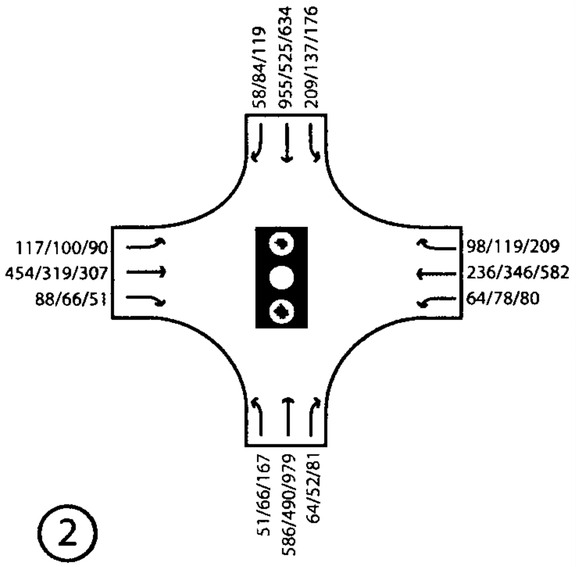
WILSON &COMPANY

SOLID WASTE MANAGEMENT DEPARTMENT (SWMD) TRAFFIC IMPACT STUDY
CITY OF ALBQUERQUE



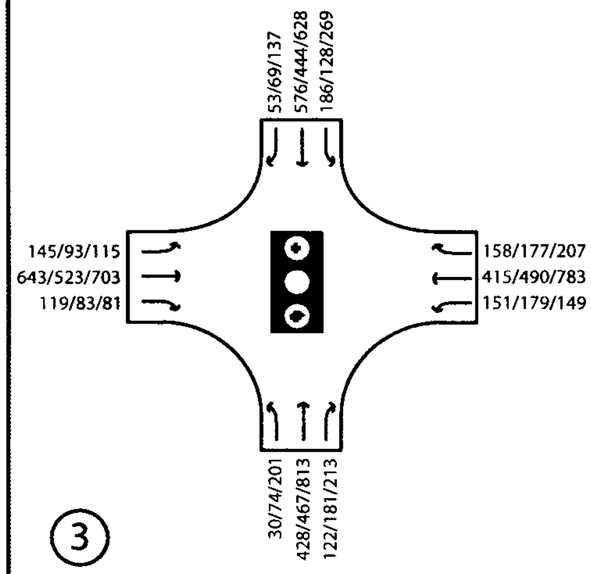
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GRIEGOS ROAD
AND 4TH STREET



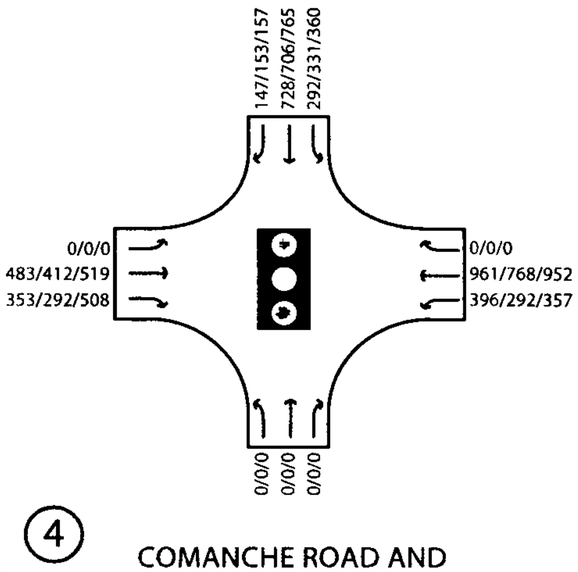
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GRIEGOS ROAD
AND 2ND STREET



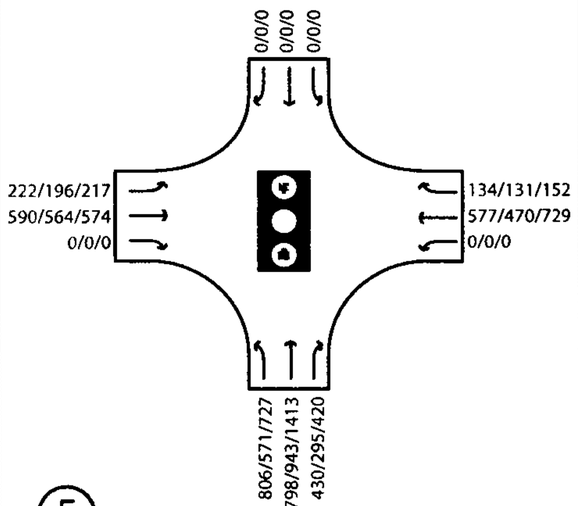
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COMANCHE ROAD/GRIEGOS ROAD
AND EDITH BOULEVARD



4

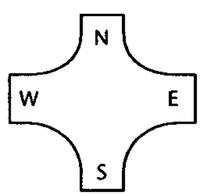
COMANCHE ROAD AND
I-25 PAN AMERICAN freeway
FRONTAGE ROAD (SOUTH)



5

COMANCHE ROAD AND
I-25 PAN AMERICAN FREEWAY
FRONTAGE ROAD (NORTH)

XX = AM VOLUMES
XX = MID-DAY VOLUMES
XX = PM VOLUMES



YEAR 2018 WITH PROJECT AM, MID-DAY, AND PM PEAK-HOUR VOLUMES

8
FIGURE

No Scale

WILSON &COMPANY

SOLID WASTE MANAGEMENT DEPARTMENT (SWMD) TRAFFIC IMPACT STUDY
CITY OF ALBQUERQUE

5.0 TRAFFIC ANALYSIS

a. CAPACITY AND LEVEL OF SERVICE

The *Highway Capacity Manual* (HCM 2010) defines operational measures of effectiveness for all types of roadways and junctions in terms of qualitative levels of service (LOS). This study is concerned with levels of service for signalized intersections. LOS at intersections is measured in terms of average vehicle delay, in seconds, for each approaching vehicle. Control delay is the sum of the deceleration, queue, stop, and acceleration delays, computed for each approach movement. **Table 1** summarizes LOS definitions and criteria for signalized intersections.

Table 1 Intersection Level of Service Criteria

Level of Service	Signalized Intersection Control Delay (sec/veh)	Definition
A	≤ 10	Very Low Delay – Free Flow
B	> 10 - 20	Minimal Delays - Good Progression
C	> 20 - 35	Moderate Delay
D	> 35 – 55	Significant Delay
E	> 55 - 80	High Delay
F	> 80	Excessive Delay

Attainment of an overall LOS D or higher is generally the desirable base condition for intersection operations in urban areas. However, LOS E may be acceptable for certain low-volume approaches or minor movements, especially where a higher LOS may significantly degrade a major movement or where the LOS E is based upon the intersection cycle length or low approach volumes. Additionally, a poor LOS in conjunction with the addition of project traffic may be acceptable if the poor LOS existed prior to the addition of new project trips and the addition of project trips does not result in a notable increase in delay.

b. OFF-SITE ROADWAYS AND INTERSECTIONS (BUILD AND NO-BUILD)

1) Existing Conditions

HCM 2010 methodologies were employed, using Synchro 8 software, to assess existing intersection LOS during peak hours. Traffic volumes at each intersection were analyzed under weekday AM, Mid-Day and PM peak hour conditions.

Table 2 summarizes the results of this analysis of existing conditions, which indicates that each of the analyzed study area intersections is currently operating with acceptable levels of service during the peak periods with the exception of 4th Street/Griegos Road, which currently operates at LOS F during the PM peak period.

Capacity analysis worksheets are provided in the **Appendix C**.

2) Year 2018 Conditions

Analysis was also conducted to determine anticipated levels of service at study area intersections in Year 2018, both with and without the proposed project.

Forecast traffic volumes on the Year 2018 roadway network were analyzed using the Synchro 8 software. **Tables 3** and **4** summarize the results of this analysis for the Year 2018 No-Build and With-Project conditions, respectively. Capacity analysis worksheets are provided in the **Appendix C**.

Results indicate that each of the analyzed intersections is forecast to operate at LOS D or better during the AM and Mid-Day peak period under both the No-Build and With-Project conditions. During the PM peak period, the intersection of 4th Street/Griegos Road is forecast to continue to operate with poor LOS under both the No-Build and With-Project conditions. All other intersections are forecast to operate at LOS D or better during the PM peak.

The intersection of 4th Street/Griegos Road is forecast to operate at LOS F, with an intersection delay of 102.9 seconds during the PM peak period under the No-Build condition. With the addition of project traffic, the intersection delay does not increase because no new project trips enter the intersection during the PM peak period.

Table 2 Existing Year 2013 Peak Hour Intersection Level of Service

	Intersection	Eastbound			Westbound			Northbound			Southbound		
		LT	TH/R	R	LT	TH/R	R	LT	TH/R	R	LT	TH/R	R
1	**FOURTH ST & GRIEGOS RD**												
	Volume to Capacity (v/c)	0 79 / 0 81 / 1 51	0 53 / 0 41 / 0 49	N/A	0 45 / 0 53 / 0 76	0 53 / 0 62 / 1 18	N/A	0 15 / 0 38 / 0 58	0 55 / 0 82 / 1 09	N/A	0 75 / 0 65 / 0 74	0 66 / 0 75 / 0 84	N/A
	Approach Delay (sec)	35 1 / 38 8 / 143 4			27 3 / 26 5 / 115 5			28 7 / 36 0 / 82 4			29 8 / 32 7 / 38 8		
	Approach LOS	D / D / F			C / C / F			C / C / F			C / C / D		
	Intersection Delay (sec)	30 7 / 33 8 / 89 3											
	Intersection HCM-LOS	**C / C / F**											

	Intersection	Eastbound			Westbound			Northbound			Southbound		
		LT	TH/R	R	LT	TH/R	R	LT	TH/R	R	LT	TH	R
2	**SECOND ST & GRIEGOS RD**												
	Volume to Capacity (v/c)	0 60 / 0 53 / 0 57	0 66 / 0 55 / 0 36	N/A	0 40/ 0 45 / 0 52	0 49/ 0 68 / 0 79	N/A	0 34 / 0 39 / 0 71	0 61 / 0 43 / 0 96	N/A	0 74 / 0 59 / 0 81	0 67 / 0 35 / 0 58	0 09 / 0 12 / 0 21
	Approach Delay (sec)	38 5 / 37 8 / 36 3			32 2/ 38 2 / 41 3			31 8 / 27 2 / 56 4			30 7 / 24 4 / 39 7		
	Approach LOS	D / D / D			C / D / D			C / C / E			C / C / D		
	Intersection Delay (sec)	32 9 / 31 0 / 45 5											
	Intersection HCM-LOS	**C / C / D**											

	Intersection	Eastbound			Westbound			Northbound			Southbound		
		LT	TH/R	R	LT	TH	R	LT	TH	R	LT	TH/R	R
3	**EDITH BLVD & COMANCHE RD**												
	Volume to Capacity (v/c)	0 64 / 0 45 / 0 63	0 78 / 0 68 / 0 86	N/A	0 67 / 0 59 / 0 63	0 41 / 0 44 / 0 85	0 28 / 0 29 / 0 37	0 21 / 0 38 / 0 81	0 62 / 0 64 / 0 89	0 23 / 0 29 / 0 33	0 72 / 0 54 / 0 92	0 58 / 0 56 / 0 77	N/A
	Approach Delay (sec)	36 1 / 32 6 / 47 1			27 1 / 24 4 / 38 8			29 5 / 28 7 / 45 7			33 6 / 31 5 / 47 8		
	Approach LOS	D / C / D			C / C / D			C / C / D			C / C / D		
	Intersection Delay (sec)	32 0 / 29 1 / 44 7											
	Intersection HCM-LOS	**C / C / D**											

	Intersection	Eastbound			Westbound			Northbound			Southbound		
		N/A	TH/R	N/A	LT	TH	N/A	N/A	N/A	N/A	LT	TH	R
4	**I-25 SB FRONTAGE RD & COMANCHE RD**												
	Volume to Capacity (v/c)	N/A	0 75 / 0 56 / 0 91	N/A	0 77 / 0 64 / 0 73	0 52 / 0 39 / 0 50	N/A	N/A	N/A	N/A	0 55 / 0 62 / 0 65	0 73 / 0 71 / 0 74	0 26 / 0 26 / 0 27
	Approach Delay (sec)	31 2 / 24 0 / 42 3			24 4 / 24 5 / 22 3			N/A			28 6 / 28 3 / 29 2		
	Approach LOS	C / C / D			C / C / C			N/A			C / C / C		
	Intersection Delay (sec)	27 5 / 25 9 / 30 4											
	Intersection HCM-LOS	**C / C / C**											

	Intersection	Eastbound			Westbound			Northbound			Southbound		
		LT	TH/R	R	N/A	TH/R	R	LT	TH/R	R	LT	TH	R
5	**I-25 NB FRONTAGE RD & COMANCHE RD**												
	Volume to Capacity (v/c)	0 56/ 0 51 / 0 53	0 41 / 0 33 / 0 38	N/A	N/A	0 83 / 0 53 / 0 98	N/A	0 77 / 0 82 / 0 98	0 73 / 0 79 / 0 96	N/A	N/A	N/A	N/A
	Approach Delay (sec)	27 3 / 23 3 / 25 5			43 5 / 25 1 / 59 8			24 1 / 30 9 / 42 5			N/A		
	Approach LOS	C / C / C			D / C / E			C / C / D			N/A		
	Intersection Delay (sec)	28 7 / 28 0 / 42 9											
	Intersection HCM-LOS	**C / C / D**											

Note: N/A in this table refers to "not applicable" as the particular lane group does not exist at certain intersections.

AM/MID/PM

Table 3 Year 2018 No-Build Peak Hour Intersection Level of Service

	Intersection	Eastbound			Westbound			Northbound			Southbound		
		LT	TH/R	R	LT	TH/R	R	LT	TH/R	R	LT	TH/R	R
1	**FOURTH ST & GRIEGOS RD**												
	Volume to Capacity (v/c)	0 81 / 0 83 / 1 58	0 54 / 0 43 / 0 51	N/A	0 46 / 0 54 / 0 78	0 54 / 0 64 / 1 23	N/A	0 18 / 0 40 / 0 59	0 58 / 0 86 / 1 13	N/A	0 78 / 0 67 / 0 76	0 70 / 0 78 / 0 93	N/A
	Approach Delay (sec)	35 9 / 40 1 / 155 9			27 9 / 26 7 / 133 2			29 5 / 38 5 / 97 8			31 3 / 34 3 / 47 0		
	Approach LOS	D / D / F			C / C / F			C / D / F			C / C / D		
	Intersection Delay (sec)	31 7 / 35 4 / 102 9											
	Intersection HCM-LOS	**C / D / F**											

	Intersection	Eastbound			Westbound			Northbound			Southbound		
		LT	TH/R	R	LT	TH/R	R	LT	TH/R	R	LT	TH	R
2	**SECOND ST & GRIEGOS RD**												
	Volume to Capacity (v/c)	0 62 / 0 56 / 0 60	0 68 / 0 51 / 0 34	N/A	0 41 / 0 47 / 0 55	0 50 / 0 71 / 0 82	N/A	0 35 / 0 42 / 0 74	0 64 / 0 47 / 1 04	N/A	0 77 / 0 63 / 0 86	0 70 / 0 38 / 0 64	0 09 / 0 13 / 0 23
	Approach Delay (sec)	39 0 / 37 4 / 36 3			32 6 / 39 8 / 43 3			33 0 / 28 7 / 75 4			32 2 / 25 5 / 43 2		
	Approach LOS	D / D / D			C / D / D			C / C / E			C / C / D		
	Intersection Delay (sec)	34 0 / 32 0 / 53 7											
	Intersection HCM-LOS	**C / C / D**											

	Intersection	Eastbound			Westbound			Northbound			Southbound		
		LT	TH/R	R	LT	TH	R	LT	TH	R	LT	TH/R	R
3	**EDITH BLVD & COMANCHE RD**												
	Volume to Capacity (v/c)	0 67 / 0 48 / 0 65	0 80 / 0 70 / 0 89	N/A	0 69 / 0 61 / 0 66	0 42 / 0 46 / 0 88	0 29 / 0 30 / 0 38	0 22 / 0 40 / 0 84	0 63 / 0 65 / 0 92	0 23 / 0 30 / 0 34	0 75 / 0 56 / 0 96	0 60 / 0 57 / 0 80	N/A
	Approach Delay (sec)	37 7 / 33 9 / 49 5			27 8 / 25 1 / 40 8			30 0 / 29 2 / 48 5			34 8 / 32 2 / 51 6		
	Approach LOS	D / C / D			C / C / D			C / C / D			C / C / D		
	Intersection Delay (sec)	33 1 / 29 9 / 47 5											
	Intersection HCM-LOS	**C / C / D**											

	Intersection	Eastbound			Westbound			Northbound			Southbound		
		N/A	TH/R	N/A	LT	TH	N/A	N/A	N/A	N/A	LT	TH	R
4	**I-25 SB FRONTAGE RD & COMANCHE RD**												
	Volume to Capacity (v/c)	N/A	0 80 / 0 61 / 0 97	N/A	0 81 / 0 66 / 0 75	0 54 / 0 42 / 0 53	N/A	N/A	N/A	N/A	0 56 / 0 62 / 0 67	0 74 / 0 71 / 0 76	0 27 / 0 26 / 0 28
	Approach Delay (sec)	33 8 / 26 1 / 52 8			25 6 / 25 4 / 22 0			N/A			28 6 / 27 5 / 29 5		
	Approach LOS	C / C / D			C / C / C			N/A			C / C / C		
	Intersection Delay (sec)	28 7 / 26 5 / 33 3											
	Intersection HCM-LOS	**C / C / C**											

	Intersection	Eastbound			Westbound			Northbound			Southbound		
		LT	TH/R	R	N/A	TH/R	R	LT	TH/R	R	LT	TH	R
5	**I-25 NB FRONTAGE RD & COMANCHE RD**												
	Volume to Capacity (v/c)	0 57 / 0 51 / 0 54	0 43 / 0 34 / 0 40	N/A	N/A	0 87 / 0 55 / 1 03	N/A	0 79 / 0 85 / 1 02	0 76 / 0 82 / 1 00	N/A	N/A	N/A	N/A
	Approach Delay (sec)	27 5 / 23 9 / 25 7			46 9 / 25 7 / 71 3			25 1 / 32 6 / 51 2			N/A		
	Approach LOS	C / C / C			D / C / E			C / C / D			N/A		
	Intersection Delay (sec)	30 0 / 29 2 / 50 6											
	Intersection HCM-LOS	**C / C / D**											

Table 4 Year 2018 With Project Peak Hour Intersection Level of Service

	Intersection	Eastbound			Westbound			Northbound			Southbound		
		LT	TH/R	R	LT	TH/R	R	LT	TH/R	R	LT	TH/R	R
1	**FOURTH ST & GRIEGOS RD**												
	Volume to Capacity (v/c)	0 81 / 0 83 / 1 58	0 54 / 0 43 / 0 51	N/A	0 46 / 0 54 / 0 78	0 54 / 0 64 / 1 23	N/A	0 16 / 0 40 / 0 59	0 58 / 0 86 / 1 13	N/A	0 78 / 0 67 / 0 75	0 70 / 0 78 / 0 93	N/A
	Approach Delay (sec)	35 9 / 40 1 / 155 8			27 9 / 26 7 / 133 0			29 5 / 38 5 / 97 7			31 3 / 34 3 / 46 9		
	Approach LOS	D / D / F			C / C / F			C / D / F			C / C / D		
	Intersection Delay (sec)	31 7 / 35 4 / 102 8											
	Intersection HCM-LOS	**C / D / F**											
	Intersection	Eastbound			Westbound			Northbound			Southbound		
		LT	TH/R	R	LT	TH/R	R	LT	TH/R	R	LT	TH	R
2	**SECOND ST & GRIEGOS RD**												
	Volume to Capacity (v/c)	0 62 / 0 56 / 0 60	0 68 / 0 51 / 0 34	N/A	0 41 / 0 47 / 0 55	0 50 / 0 71 / 0 82	N/A	0 35 / 0 42 / 0 74	0 64 / 0 47 / 1 04	N/A	0 77 / 0 63 / 0 86	0 70 / 0 38 / 0 64	0 09 / 0 13 / 0 23
	Approach Delay (sec)	39 0 / 37 4 / 36 3			32 6 / 39 8 / 43 3			33 0 / 28 7 / 75 4			32 2 / 25 5 / 43 2		
	Approach LOS	D / D / D			C / D / D			C / C / E			C / C / D		
	Intersection Delay (sec)	33 9 / 32 0 / 47 5											
	Intersection HCM-LOS	**C / C / D**											
	Intersection	Eastbound			Westbound			Northbound			Southbound		
		LT	TH/R	R	LT	TH	R	LT	TH	R	LT	TH/R	R
3	**EDITH BLVD & COMANCHE RD**												
	Volume to Capacity (v/c)	0 67 / 0 49/ 0 65	0 80 / 0 74 / 0 90	N/A	0 70 / 0 71 / 0 81	0 42 / 0 44 / 0 86	0 29 / 0 30 / 0 37	0 22 / 0 41 / 0 85	0 63 / 0 66 / 0 93	0 24 / 0 30 / 0 39	0 76 / 0 57 / 0 97	0 60 / 0 58 / 0 81	N/A
	Approach Delay (sec)	37 7 / 35 2 / 50 4			27 9 / 29 9 / 42 1			29 9 / 30 0 / 48 2			34 9 / 33 2 / 52 8		
	Approach LOS	D / D / D			C / C / D			C / C / D			C / C / D		
	Intersection Delay (sec)	33 1 / 31 1 / 48 2											
	Intersection HCM-LOS	**C / C / D**											
	Intersection	Eastbound			Westbound			Northbound			Southbound		
		N/A	TH/R	N/A	LT	TH	N/A	N/A	N/A	N/A	LT	TH	R
4	**I-25 SB FRONTAGE RD & COMANCHE RD**												
	Volume to Capacity (v/c)	N/A	0 81 / 0 65 / 1 01	N/A	0 81 / 0 66 / 0 75	0 55 / 0 44 / 0 55	N/A	N/A	N/A	N/A	0 56 / 0 62 / 0 67	0 74 / 0 71 / 0 76	0 27 / 0 27 / 0 29
	Approach Delay (sec)	34 0 / 27 1 / 61 8			25 6 / 25 5 / 22 2			N/A			28 6 / 27 6 / 29 6		
	Approach LOS	C / C / E			C / C / C			N/A			C / C / C		
	Intersection Delay (sec)	28 7 / 26 7 / 36 1											
	Intersection HCM-LOS	**C / C / D**											
	Intersection	Eastbound			Westbound			Northbound			Southbound		
		LT	TH/R	R	N/A	TH/R	R	LT	TH/R	R	LT	TH	R
5	**I-25 NB FRONTAGE RD & COMANCHE RD**												
	Volume to Capacity (v/c)	0 58 / 0 52 / 0 55	0 43 / 0 34 / 0 40	N/A	N/A	0 87 / 0 56 / 1 04	N/A	0 79 / 0 87 / 1 04	0 76 / 0 84 / 1 01	N/A	N/A	N/A	N/A
	Approach Delay (sec)	27 6 / 23 8 / 25 6			46 9 / 26 1 / 74 2			25 1 / 33 7 / 54 3			N/A		
	Approach LOS	C / C / C			D / C / E			C / C / D			N/A		
	Intersection Delay (sec)	30 0 / 29 9 / 53 1											
	Intersection HCM-LOS	**C / C / D**											

6.0 IMPROVEMENT ANALYSIS

One intersection was forecast to operate with a poor LOS under the 2013 Existing Conditions: 4th Street/Griegos Road currently operates at LOS F during the PM peak period. However, the proposed project is not anticipated to increase delays at this intersection. Therefore, no project-related improvements are considered at this location.

7.0 FINDINGS

Traffic associated with the project is not anticipated to result in additional unacceptable operations at any of the analyzed study area intersections. The Year 2013 and 2018 study area roadway network will not experience any additional deficiencies due to traffic generated by the project.

8.0 RECOMMENDATIONS

a. Site Access and Circulation Plan

It is assumed that traffic will utilize the existing site driveways. No improvements are proposed.

b. Off-Site Improvements and Mitigation Measures

Analysis of traffic operations following opening of the project in Year 2018 indicates that the additional traffic generated by the proposed project will not result in any new peak-hour deficiencies, assuming improvements to study area roadways are implemented (by others) as planned.

No project-related, off-site improvements, beyond those already anticipated to be constructed by others, are recommended.

Appendix A
Reference Documents

Division: Public Works
Department: Infrastructure Planning and Geo-Resources
Program: 30TP

TRAFFIC IMPACT ANALYSIS

1.0 Background

A Traffic Impact Analysis (TIA) assesses how a proposed development affects the transportation network and recommends how to mitigate the impacts of additional traffic. The solutions proposed address motorized and non-motorized transportation modes. While there are common TIA characteristics, the studies vary in complexity depending on the type, size, and location of the development.

The responsibility of Bernalillo County Public Works Division (BCPWD) is to protect the public interest by ensuring that development impacts on transportation system performance are understood and addressed. Bernalillo County Code states that a TIA may be required for residential, commercial and industrial developments within the County.[1] Under the Bernalillo County Code, a TIA may be required for subdivisions with 25 or more parcels, and apartments or mobile home parks with 25 or more dwelling units. The County Code states that non-residential design will be based on traffic generation.[2] A TIA is considered for all commercial and industrial developments independent of size of the proposed operation if the development abuts or accesses a county or state maintained road and existing or future trail within Bernalillo County. Public Works classifies public facilities such as schools, parks, government offices, police and fire stations, and community centers as non-residential facilities. Whether the proposed development is residential or non-residential, a TIA is reviewed and may be required to provide safe and efficient driveway access, and to ensure pedestrian, bicycle as well as vehicle safety.[3] It is the County Code that establishes the thresholds for conducting a study, the concern for safety, and multimodal traffic analyses.

When considering whether or not a proposed development requires a TIA, the minimum trip generation threshold reviewed is 250 trips on a weekday or 25 trips in the PM peak hour.[4] These thresholds support but do not determine whether or not a TIA is required. A TIA may be required either on the basis of vehicle characteristics such as axle loads and turning radii, or roadway characteristics such as safety and level of service of road segments and intersections. In review of TIA requirements, consistent with the intent of the County Code, the primary concern is public safety.

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[1] Bernalillo County Code Chapter 74, Section 74-103 Transportation
[2] Bernalillo County Code Chapter 66, Section 66-222 Curb Cut Requirements
[3] Bernalillo County Code Chapter 66, Section 66-213 Intent and Purpose
[4] Consistent with the County Code notation of a TIA based on trips generated by number of residential units, the residential land use with the highest average trip generation rate (Single Family Dwelling Unit, land use 210) was the basis for the review threshold.

A developer may recommend that a proposed development should be exempt from preparing a TIA. The recommendation must be technically based on trip generation and safety concerns. The recommendation must be in writing so there is formal documentation of the request. There will be a written response to the recommendation so there is a clear record of the technical foundation of the recommendation and response. This ensures that the TIA requirements are consistently and equitably applied. BCPWD will respond in writing whether or not a TIA is required and the basis for the decision. If BCPWD concurs that a TIA is not required, this action does not in any way constrain the New Mexico Department of Transportation (NM DOT). NM DOT may require a traffic study even though BCPWD does not. A Scoping Report is the required first step for all non-residential development, whether or not a TIA will be prepared.

2.0 Stakeholder Involvement

Bernalillo County is committed to serving the public interest through benchmarking and improving upon nationally recognized practices. Bernalillo County is committed to continuous quality improvement. Our TIA "stakeholders" are the individuals and organizations impacted by TIA procedures and the final product. Our stakeholders include developers and their representatives, governmental agencies, non-governmental organizations, and interested residents.

We are interested in learning from our stakeholders. Each year BCPWD invites stakeholders to review and comment on our TIA procedures. Innovative approaches are encouraged that contribute to and advance current practices in Bernalillo County, the Mid-Region of New Mexico and our Nation.

3.0 Deleted

4.0 Scoping Report

The first step in a TIA is for the developer or developer's representative to prepare a Scoping Report. Staff from Parks and Recreation may also be invited if bicycle and pedestrian facilities are potentially part of the scope. The Scoping Report will include a site plan, quantitative description of the proposed development and land use along with relevant mapping. Scoping Report topics should include, but are not limited to, the following:

If no TIA is anticipated, the information may be submitted in the form of a letter and include:

- Proposed action and KIVA[5] number (building permit, zoning change, special use permit, conditional use permit, subdivision, etc.)
- Proposed land use;
- Proposed roadway access;
- Proposed on-site vehicular and pedestrian-bicycle circulation and parking;
- Hours and days of operation;
- Trip generation for average weekday and peak hour traffic (must include all customers, employees, deliveries, etc.)

[5] KIVA is the County's on-line permit tracking system.

- Truck traffic;
- Consistency with area and regional plans for all modes of transportation.

If a TIA is anticipated:

- The information listed above plus the following
- Proposed development phasing;
- Proposed development completion date(s) and study horizon year(s);
- TIA study area;
- Previously conducted and relevant TIAs and recommendations;
- Financially guaranteed improvements from other approved developments;
- Data proposed for use in the analysis, including study period by proposed land use, age of previously collected data, and growth rates;
- Anticipated tools proposed for the conduct of the TIA[6];
- Anticipated traffic monitoring and/or field data collection;
- Traffic forecast method and traffic dataset;
- Safety analysis;
- Initial assessment of development impact on other modes of transportation, including pedestrian, bicycle and transit; and

The proposed land use will affect subsequent bullets. For example, one of the following bullets is anticipated traffic monitoring and/or field data collection. The traffic monitoring period of interest for most land uses, public and private, is directly related to the traffic on the adjacent roadway. However, some land uses have trip generation characteristics that are related to the generator rather than the adjacent street traffic. When this occurs, the traffic monitoring period may change. An alternative methodology to ITE's trip generation rates may be proposed in the Scoping Report such as in cases of small building footprints or land uses not listed in the ITE Handbook.

Each land use will be evaluated to determine the appropriate periods to be evaluated in the study. In this evaluation, the first concern is safety and the second concern is operational impact on the street network. The Scoping Report should begin with the proposed land use or uses and then use the land use to inform the following topics in the Scoping Report.

A scoping meeting is scheduled with the developer or developer's representative after the Scoping Report has been submitted to and reviewed by BCPWD. Staff will assign a Public Works Traffic Study Review (PWTR) number to the report so the case can be tracked in KIVA.

5.0 Scoping Meeting

[6] BCPWD recommends the most current versions of the *Highway Capacity Manual* (HCM), Transportation Research Board, with computer software conforming to the HCM; *Trip Generation* and *Trip Generation Handbook*, Institute of Transportation Engineers; *A Guide for Reducing Collisions Involving Bicycles*, National Cooperative Highway Research Program, Report 500; and, *A Policy on Geometric Design of Highways and Streets*, American Association of State Highway and Transportation Officials. Exceptions to these resources must be proposed in the Scoping Report and approved by BCPWD prior to use in the analysis.

The developer or developer's representative will meet with BCPWD staff and discuss the Scoping Report for the conduct of a TIA. Each proposed development has both common and unique features. These features will be discussed during the meeting.

BCPWD staff will clarify the scope and may recommend changes during the meeting. Subsequent to the meeting, the final Scoping Report will be submitted to BCPWD for approval. Approval will be provided in writing. Staff will determine, based on the Scoping Report, if the proposed development will generate sufficient traffic to impact County roadways and if there are any safety issues associated with the development. Staff will notify the applicant if they must continue with the preparation of a TIA.

When the Scoping Report is approved by BCPWD, a draft TIA based on the approved scope is prepared by the developer or the developer's representative. The draft TIA should include the approved Scoping Report.

In addition to meeting with representatives of Bernalillo County, the developer is required to meet with the NM DOT when a state route within the county limits is involved. When multiple governmental agencies are impacted by a proposed development, Bernalillo County recommends the developer convene a meeting in which all agencies are invited to participate.

6.0 Draft Traffic Impact Analysis

Based on the approved Scoping Report, unless directed otherwise by BCPWD, a licensed traffic engineer will prepare a draft TIA for review and comment by BCPWD and consistent with the Bernalillo County Code, will submit three copies of the draft and all subsequent TIA documents.

6.1 General Approach

Traffic conditions associated with a "no build" option will be depicted in the Draft TIA. This option will represent the "baseline" traffic condition. One or more "build" scenarios will be presented in the Draft TIA to portray traffic conditions that would result from the proposed development.

The no build and build scenarios may involve future time frames, commonly called "horizon years". In the scoping study, the developer will propose the horizon years. Typically, horizon years are based on development plans. During the scoping meeting, BCPWD may require changes and additions to the proposed horizon years.

The Metropolitan Transportation Plan (MTP) for the Mid-Region of New Mexico includes roadway, bicycle, pedestrian, and transit improvements for future years, reflecting fiscally constrained and policy approved investment in infrastructure. Policy approved investment may include privately funded transportation improvements. The horizon year(s) baseline or no build condition shall include these improvements and no others as part of the no build option.

For Bernalillo County, the Metropolitan Planning Organization (MPO) is the Mid-Region Council of Governments (MRCOG) which is responsible for developing the regional

socioeconomic and regional travel demand forecasts for the Albuquerque Metropolitan Planning Area (AMPA). The authorized travel demand package is the current package identified by MRCOG. Approved MRCOG datasets from the current MTP should be the basis for all baseline network and socioeconomic assumptions and inputs. These MTP Scenario input datasets and model databanks are made available to the public and every member agency of the MRCOG.

Some large-scale developments have a regional traffic impact. The developer or developer's representative may propose to model regional traffic and present the results in the draft TIA. If the scope of the TIA is of a scale such that it requires significant Traffic Analysis Zone and/or network modification of the approved MTP datasets and necessitating additional use of the MRCOG's Regional Travel Demand Model, a special request from the County to the MRCOG must be coordinated in consideration of current tasks identified in the MRCOG's current Unified Planning Work Program. Regional traffic modeling results conducted without the direct involvement of the MRCOG and BCPWD are not acceptable either for inclusion in a scoping study or for submittal in a draft TIA. For modeling results to be acceptable, at a minimum MRCOG and BCPWD must be involved in defining the model assumptions as well as assessing and approving model results.

Using traffic procedures and tools approved in the scoping study, the draft TIA shall evaluate transportation levels of service (LOS) and other measures of effectiveness for the build scenario(s). Additional traffic analysis based on site study area characteristics include queuing analysis, speed-change lane requirements, vehicle mix (percent heavy vehicles [%HV], passenger car equivalents [PCE]), gap studies, traffic signal warrants, traffic signal progression, sight distance, and pedestrian/bicycle safety analysis. The draft TIA shall identify road segment and intersection deficiencies resulting from the proposed development and shall recommend an itemized program of specific improvements to correct the deficiencies caused by the proposed development. The draft TIA should identify locations where improvements may require additional right of way.

Pedestrian activity – signalized intersection(s) evaluations must show green time splits that include adequate pedestrian crossing times. When traffic signal timing is optimized for mainline traffic flow and side street volumes are low, this can become problematic. The study shall include adequate pedestrian crossing green time for all through movement split calculations.

Truck traffic – A description and analysis of internal traffic circulation including heavy vehicles should be included in the traffic report. For large commercial industrial developments, the TIA will include an analysis of internal traffic circulation and heavy vehicle route assignments to/from their origins. The origin destination modeling should adhere to established movement hierarchy lines of travel avoiding local roads that serve residential areas.

To reduce conflicts at access points, right-turn and left-turn speed change lanes may be required. Access point characteristics, site generated traffic, proximity to major/minor intersections and other driveways, and the posted speed limit of adjacent roadways will be used to determine when speed change lane warrant analyses are required. Bernalillo County utilizes the criteria for determining when speed change lanes are required contained in the current *New Mexico Department of Transportation, State Access Management Manual.*

6.2 Study Area

The extent of the draft TIA study area is defined by the impact of the proposed development on current and horizon year roadway operations. The study area is in two parts - the intersection and travelshed analysis areas. The developer or developer's representative will propose the study area, for both intersections and the travelshed, in the scoping study. The approved study area is implemented in the Draft TIA.

The intersection analysis area is the area within which signalized and unsignalized intersections shall be analyzed for each particular study. The area will vary based upon the proposed land use, intensity, and the location and the existing operation of the surrounding intersections. The minimum intersection analysis area requirement is site access and adjacent intersections, plus the first major intersection in each direction from the site.

The travelshed, sometimes called the market area, is the geographic area that is identified for the proposed development trip origins and destinations. The passenger car travelshed is used for the purpose of setting the limits of the study area for a proposed development. This may range from a 2-mile radius for a small retail establishment, to as large as the regional traffic modeling area for major residential, commercial or industrial developments. The travelshed of the development shall be recommended in the scoping study and may be revised during the scoping meeting.

The study area for pedestrian and bicycle facilities may be determined in a number of ways such as a time contour distance from the development site or by a comfortable walking or bicycling distance to surrounding neighborhoods.

6.3 Traffic Data

Traffic counts of motorized and non-motorized vehicles and pedestrians may be recommended by the developer or required by BCPWD. Traffic volume, classification, and speed data may be counted for one or more road segments; and, turning movements may be counted at one or more intersections. Other traffic data, such as heavy commercial vehicle Gross Vehicle Weight and axle load distribution, may be specified by BCPWD along with reporting requirements. Special counts may be recommended or required such as queue, delay, or gap studies. If special counts are indicated, data collection techniques will be determined by the County and the developer or the developer's representative.

MRCOG is a primary source of traffic monitoring data in the region. MRCOG reports standard and non-standard traffic summary statistics in their Annual Traffic Flow Maps. Only standard-based traffic summary statistics should be included in a report submitted to Bernalillo County Public Works Division. In addition, traffic trends on a roadway should be based on standard count-based data, not a combination of factored and unfactored data.

In addition, Bernalillo County conducts short-term traffic counts of vehicle volume, classification, intersection turning movements, and speed on some County road segments. These count data are available upon request. While it is often helpful to review and use historical

traffic data, it is required that the most recent data used in a TIA be collected no more than three years prior to the submittal of the document. If required traffic data for the proposed development have not been collected within the past three years, a traffic count must be conducted by the developer, noted in the Scoping Report, incorporated into the Draft and Final TIA, and be submitted to Bernalillo County Public Works Division in electronic format.

BCPWD is developing a website that will consolidate traffic monitoring counts whether collected by the private or public sector. All traffic data collected for TIAs must follow the electronic data submittal requirements in these guidelines to ensure the data are comparable and the results accessible through the website. Public agencies and the private sector will have access to the accepted data.

Traffic data for a TIA must be collected on Tuesday through Thursday so the data represent typical weekday traffic. If the proposed development has trip generation characteristics that recommend traffic monitoring on other days of the week, monitoring on alternative days of the week should be proposed in the Scoping Report and approved by Bernalillo County prior to the data being collected and analyzed.

The technology of traffic monitoring devices is constantly advancing. In order to provide flexibility for the changing technology, traffic counts must be submitted in electronic format to Bernalillo County. The counts should be submitted as plain text (ASCII) comma delimited file generated directly from the Automatic Traffic Recorder (ATR) or ATR software. The file header should include the Latitude and Longitude of the count. The Latitude and Longitude should be in decimal degrees format. In addition to the Latitude and Longitude, the header information should include the route name and location on the route (e.g. Barcelona Rd, East of Coors Blvd). Documentation of the header format should be included with the submittal. Electronic traffic data should be accompanied by a map (road segment or intersection) showing the location of the count and the volumes.

6.3.1 Electronic Submittal of Traffic Data

6.3.1.1 Road Segment Traffic Data

All counts will have a data summarization period of 15 minutes. There will be a minimum of 48 consecutive hours of data collected by direction reported from each road segment data collection site. This standard will apply for volume, classification, speed and weight.

The file must have a header section (the first few records of the file) followed by the traffic volume data. The file header must include the location and facility description information indicated below.

1. The header record must include a flag to indicate if the count is one or two way.
2. The header record must include the latitude and longitude of the count in decimal degrees reported to the third decimal place.
3. The header record must include a machine identification number.
4. The header record must include the start/end dates and the start/end times.

5. The header record must include a directional indicator that matches to the data records.
6. The header record must include a location description (such as Barcelona Rd East of Coors Blvd).

Additionally, the Automatic Traffic Recorder used to collect the road segment data must be configured to collect the traffic data in the following manner:

1. The data must be collected directionally.
2. The data must be collected in 15 minute intervals.
3. The data must be collected for a minimum of consecutive 48 hours (192 consecutive 15 minute periods), Tuesday through Thursday.

Day 1 and Day 2 counts will be compared by BCPWD to insure consistency of data. If there are inconsistencies (due to either machine malfunction or abnormal traffic patterns), a recount of the location may be required.

6.3.1.2 Electronic file of complete TIA

After the review and approval process, the final TIA will be converted to pdf format and submitted with the required number of final hard copies of the document. The pdf file will be made available on Bernalillo County's website for public information. The pdf file can be delivered on a readable CD or transmitted via other means with approval from Bernalillo County Staff.

6.3.1.3 Intersection Turning Movement Data

Intersection turning movement data must be collected consistent with the Bernalillo County Public Works standard practice, or the ASTM standard practice developed with the involvement of state transportation agencies and under the guidance of the Federal Highway Administration.[7] Turning movement count data will include the 15-minute volume of each movement by approach lane. Intersection turning movements should minimally report passenger cars, trucks, bicycles and pedestrians. Intersection turning movement counts without bicycle and pedestrian information will not be accepted.

The period of intersection turning movement counts will follow one of two procedures consistent with state traffic monitoring standards.

1) Fixed Intersection Count Period

Manual intersection turning movement counts will be conducted from 07:00 to 10:00, 11:00 to 14:00, and 15:00 to 18:00 hours. This provides monitoring of three daily peak traffic periods during the same weekday, each of three-hour duration, for a total of nine hours of data collection.

[7] *Standard Practice for Acquiring Intersection Vehicle Turning Movement Data*, ASTM, E17.52, WK20203

Bernalillo County will use the first data collection period to help identify traffic during the AM Peak. Bernalillo County will use the second data collection period to help identify traffic congestion and access issues during mid-day, and to assess trips other than those between home and work. Data about other trips other than home and work are useful in the transition from traffic studies serving only personal vehicle and roadway needs to understand other motorized and non-motorized transportation options. Bernalillo County will use the third data collection period to help identify traffic during the PM Peak.

2) Flexible Intersection Count Period

Intersection turning movement counts may be conducted based on observed peak traffic conditions from a standard 48-hour road segment traffic volume count conducted on the high volume leg of the intersection. Traffic counts on the high volume approach on an intersection must have been conducted in the same seasonal adjustment period and within three years of the analysis. Typical morning, noon, and evening peak hours will each be defined using fifteen-minute intervals. At a minimum, one half hour before and one half hour after each anticipated peak hour will be defined. This will result in three traffic-monitoring periods within a weekday, each of a minimum of two hours duration, for a total of six hours of data collection.

3) Changes to the Data Collection Period

The proposed development may have trip generation characteristics that are not included in the two stated count periods. In this circumstance, the traffic data collection period may be extended.

In the Scoping Report, the developer may recommend a change in or reduction to the data collection period. The reduction should be based on the specific land use and proposed site. It should be anticipated, however, that intersection turning movement traffic counts will be a minimum of six hours and in all circumstances the data must be collected and reported consistent with standard practice.

6.3.2 Truth In Data

Traffic data collection, editing, summarization and reporting practice will be consistent with the Principle of Truth in Data. Divergence from standard practice must be disclosed. Data may not be estimated, interpolated or by any means manipulated and reported as traffic measurements.

Additional traffic data or data format requirements may be identified by BCPWD during the scoping meeting. Traffic data collection should follow scoping study approval. Traffic summary statistics together with base data must be submitted for evaluation.

6.3.3 Data Use

If accepted, the traffic data will be entered into the Bernalillo County traffic database and used in the traffic analysis and for other purposes. Standard data are used for purposes such as the

accident exposure rate, which is calculated by dividing the number of accidents by the traffic volume over the same period. Ensuring data quality is a public trust whether the data are used for traffic operations or safety. There is, therefore, rigorous quality assessment of the traffic data collected for and submitted as part of a TIA.

In addition to quality control, there is also a cost savings by requiring traffic data be submitted electronically, be checked, and when accepted entered into a database for ongoing use. By using the same data for traffic impact studies and other applications such as safety analyses, the overall cost of collecting traffic data is reduced. Savings, too, is in the public interest.

6.4 Content Organization

The draft TIA should use the following outline to organize the study content. Some points in the outline will not be applicable to all proposed developments. For example, not all developments have phases of development. The developer or the developer's representative will either use the following draft TIA outline for all applicable points or propose an alternative outline in the scoping study.

6.4.1 Draft TIA Outline

1. Introduction and summary
   a. Purpose and objectives
   b. Site location and study area
   c. Brief description of the development
   d. Approved Scope
   e. Conduct of the study
      (1) Assumptions used in the study
      (2) Resources used in the study
      (3) Traffic monitoring or other field data collected for the study
   f. Principal findings and/or conclusion(s)
   g. Recommendations proposed as part of the development for on-site and off-site improvements

2. Proposed development
   a. Land use and intensity
   b. Location
   c. Site plan
   d. Phasing and timing

3. Area conditions
   a. Off-site study area
      (1) Area of influence
      (2) Area of traffic impact
      (3) Current and planned development
   b. Under construction
   c. Infill development

d. On-site study area
    (1) Area of influence
    (2) Current phase of development
e. Site access
    (1) Existing and proposed road system
    (2) Existing and proposed trail system
    (3) Existing and proposed sidewalks
    (4) Existing and proposed bike lanes and bike routes
    (5) Bus stops
    (6) Improvements to accommodate site traffic
    (7) Improvement alternatives

4. Projected Traffic
    a. Growth rate
    b. Site motorized vehicle traffic (by horizon year, phase and land use)
        (1) Trip generation
            (a) Rate or equation
            (b) Independent variables
            (c) Time period
            (d) Daily and seasonal variables
            (e) Internal capture, diverted and pass-by trips
    c. Site non-motorized vehicle and pedestrian traffic (by horizon year, phase and land use)[8]
    d. Off-site traffic (by horizon year)
        (1) Trip distribution and assignment consistent with the regional transportation model[9]
        (2) Off-site traffic for planned development
    e. Total estimate off-site traffic (each horizon year)
5. Traffic analysis
    a. Site access
        (1) Capacity and Level of Service
        (2) Traffic control
        (3) Sight distance
        (4) Signal warrant analysis
        (5) Turn lane warrants
    b. Off-site roadways and intersections (build and no-build)
    c. Site circulation
        (1) County road standards
        (2) Parking
        (3) Large vehicle uses
        (4) Pedestrian, equestrian, and/or bicycle uses

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[8] The presence of bicycle traffic, as a primary example of non-motorized vehicle traffic, is not the sole way in which a proposed development should address need for bicycle service as part of a traffic analysis. The Final TIA must address the ways in which the proposed development can support current regional plans for non-motorized transportation. This assessment should be based on need and opportunity as well as presence identified during traffic monitoring.

[9] Alternative approaches may be used if consistent with the recommended practice identified in the most current edition of *Transportation Impact Analyses for Site Development*, Institute of Transportation Engineers; Washington, D.C.

6. Improvement analysis
   a. Improvements to accommodate base traffic (no build)
   b. Improvements to accommodate site traffic (build)
   c. Improvement alternatives
      (1) Safety – a description of safety impacts and alternatives is required for all land uses.
      (2) For public, charter, and private school and school-related land uses:
         - Count data should include actual or estimates of school peak hours
         - Describe the safety of pedestrian and bicycle routes to school including crosswalks within the school's walk zone[10].
         - The school agency shall provide a site location at the time of the initial coordination meeting so that it can be reviewed for compatibility with the adjacent roadway system. The site circulation plan shall show driveway access, parking for employees, parents, students, and visitors, separate parent and school bus drop-off and loading, ADA facilities, pedestrian crosswalks, walkways, and bicycle facilities. Describe the safety of parent/bus drop-off and student/staff parking. Identify on-site pedestrian-bicycle circulation.
         - Reference the draft MRCOG School Traffic Study Procedures dated September 19, 2010 for additional information on school related land uses.
      (3) For industrial uses involving heavy trucks, a structural pavement analysis must be performed to determine if County roadways affected by trips to and from the site can support truck traffic. The scope of the pavement analysis will vary depending on truck loading factors, location of the development, and other items pertaining to the particular development. The analysis will provide information on the pavement structural capacity of the in-situ county maintained roadways affected by site generated traffic.

7. Findings
   a. Site accessibility
   b. Traffic impacts
   c. Need for any improvements
   d. Compliance with application local, state and national standards

8. Recommendations
   a. Site access and circulation plan
   b. Off-site improvements and mitigation measures

6.5 Review and Comment

BCPWD has adopted a target of ten working days for initial review and comment on a draft TIA. Comments will be provided in writing to the developer or developer's representative. BCPWD comments will identify concerns that must be addressed and technical corrections that are recommended to improve the document. BCPWD may require the draft TIA be resubmitted or may state that after revising the draft document the final TIA may be submitted. The County,

[10] APS walk zones are defined as 1 mile radius for elementary school, 1.5 miles for middle school, and 2 miles for high school students.

the developer or the developer's representative may request a meeting to discuss the comments. Discussions and ultimate approval are dependent on the level of initial comments, additional analysis requested, and scope of improvements to be considered to mitigate any negative impacts to the local transportation network. Bernalillo County will work with the developer and developer's representative to complete these discussions within one month of submittal of the draft TIA.

7.0 Final Traffic Impact Analysis

When notified by BCPWD, a developer or developer's representative may submit three copies of the final TIA with the changes directed along with the electronic versions of the report described in Sections 6.3.1.1 and 6.3.1.2. BCPWD can provide support in scanning documents. The developer may be requested to deliver a presentation of findings to County staff. The final document is not considered approved until stated in writing by BCPWD. Final TIA approval will be provided by BCPWD in writing to the developer.

8.0 Changes to the Final Traffic Impact Analysis

8.1 Traffic Impact Analysis Re-submittal

Some developments change the site plan, site access, and land uses after the Final TIA has been approved. In this case, the Final TIA approval for the proposed development is withdrawn and the Final TIA must be resubmitted. Re-submittal of the Final TIA must include all changes to the site plan and calculation of their impact on traffic safety and operations. The resubmitted document is subject to the same review and approval process as the previously submitted Final TIA.

8.2 Traffic Impact Analysis Update

Some developments are completed long after a Final TIA is approved. A Final TIA is in effect for three years from the approval date. After three years, an update of the TIA must be filed and approved. The update is subject to the same review process as a new TIA. The developer or developer's representative will prepare a scoping report, and upon approval will prepare a draft and then final document.

Contact information: Infrastructure Planning and Geo-Resources Department
Bernalillo County Public Works Division
2400 Broadway Boulevard, S.E. (Building N)
Albuquerque, NM 87102
(505) 848-1500

Appendix B
Count Data

WILSON &COMPANY

WILSON &COMPANY
900 Lang Ave. NE
Albuquerque, NM 87109
05-348-4000

File Name : 4th
Site Code : 00000000
Start Date : 12/4/2013
Page No : 1

Groups Printed- Unshifted - Bus - Truck

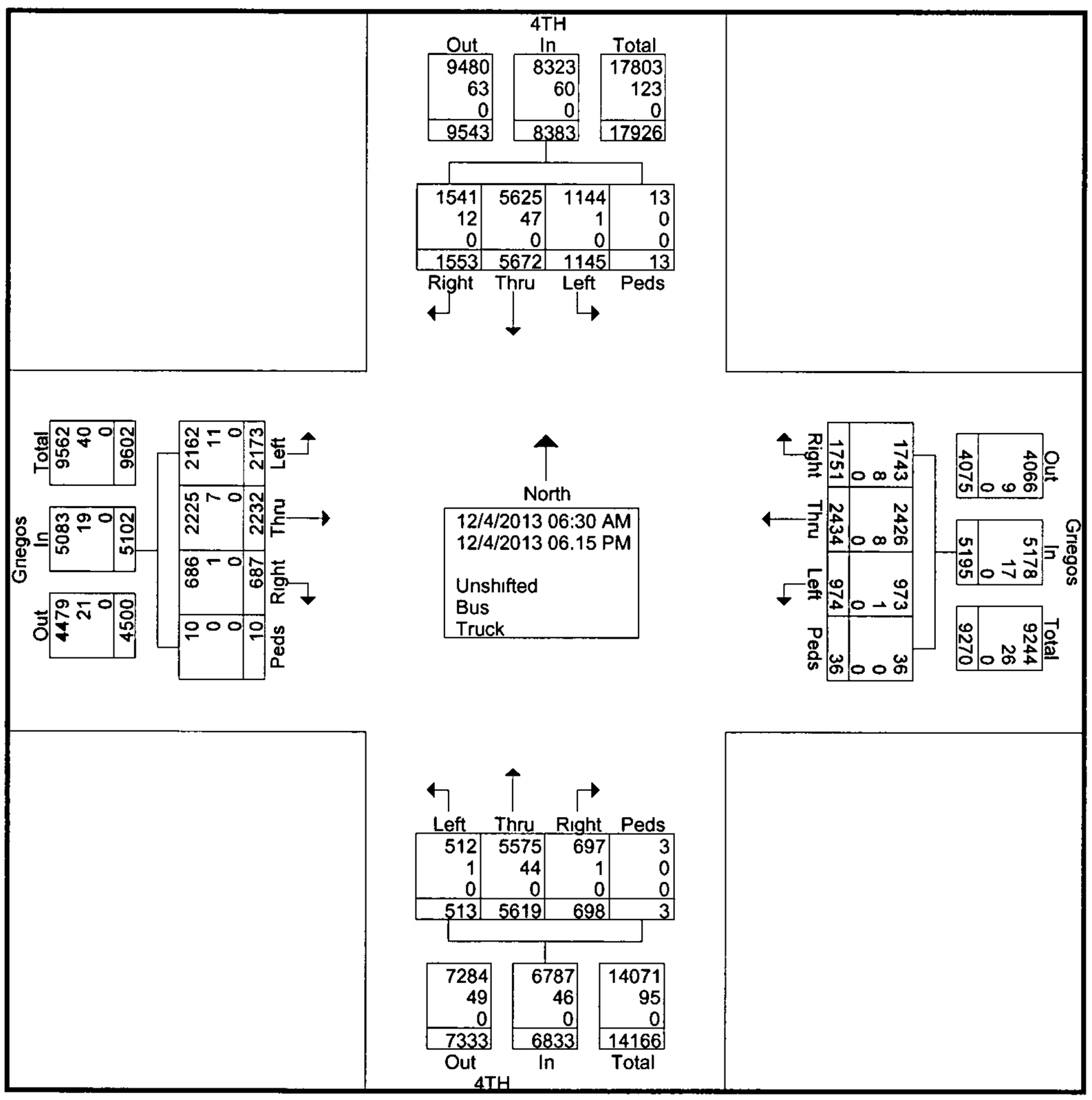
	4TH From North					Griegos From East					4TH From South					Griegos From West					
Start Time	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Int Total
06:30 AM	8	50	15	0	73	6	11	0	0	17	7	31	0	0	38	5	21	12	0	38	166
06:45 AM	26	132	30	0	188	7	24	17	0	48	10	79	0	0	89	2	62	41	0	105	430
Total	34	182	45	0	261	13	35	17	0	65	17	110	0	0	127	7	83	53	0	143	596
07:00 AM	33	135	35	0	203	16	35	11	1	63	12	69	3	0	84	17	84	49	1	151	501
07:15 AM	50	154	44	0	248	27	55	9	0	91	14	113	1	0	128	21	86	54	0	161	628
07:30 AM	33	225	50	0	308	37	58	25	0	120	14	127	7	0	148	29	115	77	0	221	797
07:45 AM	21	213	45	0	279	37	51	42	2	132	13	119	9	0	141	16	101	82	0	199	751
Total	137	727	174	0	1038	117	199	87	3	406	53	428	20	0	501	83	386	262	1	732	2677
08:00 AM	33	180	32	1	246	35	32	13	1	81	10	110	18	0	138	21	75	45	0	141	606
08:15 AM	35	150	42	0	227	51	31	21	1	104	8	118	9	0	135	21	65	51	0	137	603
08:30 AM	43	149	50	0	242	52	47	12	0	111	11	140	7	0	158	29	68	62	0	159	670
08:45 AM	47	196	47	0	290	45	39	27	0	111	15	131	7	0	153	24	72	54	0	150	704
Total	158	675	171	1	1005	183	149	73	2	407	44	499	41	0	584	95	280	212	0	587	2583
09:00 AM	40	136	26	0	202	46	46	22	0	114	15	129	11	0	155	14	51	37	0	102	573
09:15 AM	33	140	30	1	204	33	32	19	0	84	6	90	6	0	102	20	40	40	0	100	490
-** BREAK ***																					
Total	73	276	56	1	406	79	78	41	0	198	21	219	17	0	257	34	91	77	0	202	1063
** BREAK ***																					
11:00 AM	32	120	23	0	175	49	52	31	0	132	18	91	13	0	122	17	52	45	0	114	543
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11:45 AM	45	160	28	2	235	45	38	17	1	101	19	196	14	0	229	28	76	65	3	172	737
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12:15 PM	58	202	31	0	291	43	48	34	0	125	21	206	22	1	250	19	46	73	0	138	804
12:30 PM	60	166	34	0	260	54	59	31	2	146	19	168	16	0	203	18	50	58	1	127	736
12:45 PM	48	177	30	1	256	43	41	21	0	105	13	145	15	0	173	17	75	85	0	177	711
Total	204	682	136	1	1023	193	202	114	4	513	69	697	65	1	832	75	217	281	1	574	2942
01:00 PM	45	170	36	1	252	31	45	26	2	104	17	162	24	0	203	16	45	60	1	122	681
01:15 PM	42	210	34	0	286	28	50	36	1	115	11	157	13	0	181	22	49	46	0	117	699
** BREAK ***																					
Total	87	380	70	1	538	59	95	62	3	219	28	319	37	0	384	38	94	106	1	239	1380
*** BREAK ***																					
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03:45 PM	38	130	27	0	195	44	60	45	4	153	19	115	17	0	151	20	54	67	0	141	640
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04:45 PM	38	188	33	0	259	77	101	30	8	216	27	266	30	1	324	13	55	85	0	153	952
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WILSON
&COMPANY
4900 Lang Ave. NE
Albuquerque, NM 87109
505-348-4000

File Name : 4th
Site Code : 0000000
Start Date : 12/4/201^
Page No : 2

Groups Printed- Unshifted - Bus - Truck

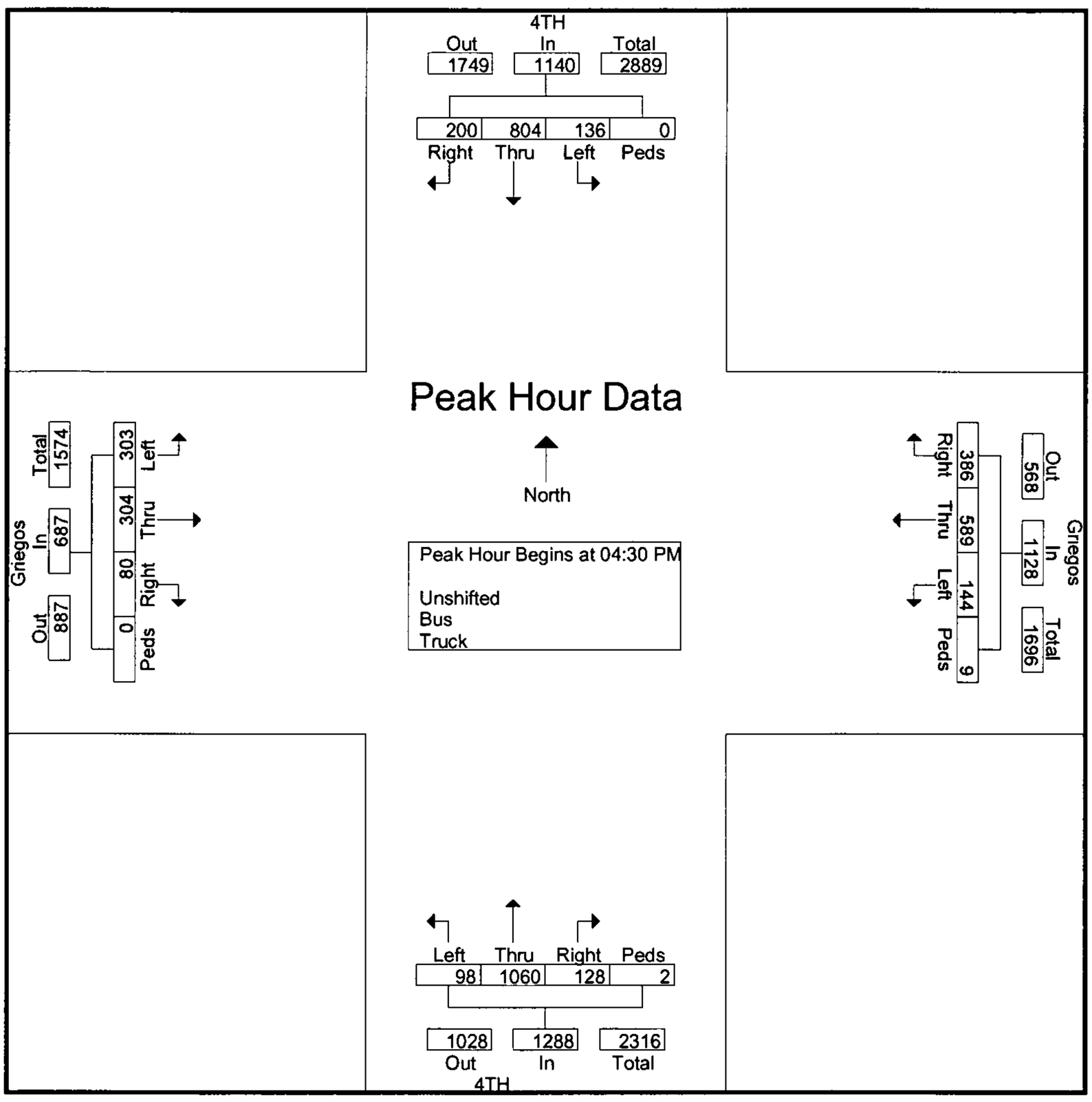
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Start Time	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Int. Total
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Apprch %	18.5	67.7	13.7	0.2		33.7	46.9	18.7	0.7		10.2	82.2	7.5	0		13.5	43.7	42.6	0.2		
Total %	6.1	22.2	4.5	0.1	32.9	6.9	9.5	3.8	0.1	20.4	2.7	22	2	0	26.8	2.7	8.7	8.5	0	20	
Unshifted	1541	5625	1144	13	8323	1743	2426	973	36	5178	697	5575	512	3	6787	686	2225	2162	10	5083	25371
% Unshifted	99.2	99.2	99.9	100	99.3	99.5	99.7	99.9	100	99.7	99.9	99.2	99.8	100	99.3	99.9	99.7	99.5	100	99.6	99.4
Bus	12	47	1	0	60	8	8	1	0	17	1	44	1	0	46	1	7	11	0	19	142
% Bus	0.8	0.8	0.1	0	0.7	0.5	0.3	0.1	0	0.3	0.1	0.8	0.2	0	0.7	0.1	0.3	0.5	0	0.4	0.6
Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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	4TH From North					Griegos From East					4TH From South					Griegos From West					
Start Time	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Int Total
Peak Hour Analysis From 06:30 AM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	**57**	188	34	0	279	71	154	**40**	1	266	29	204	15	0	248	22	76	70	0	168	961
04:45 PM	38	188	33	0	259	77	101	30	**8**	216	27	266	30	**1**	324	13	55	85	0	153	952
05:00 PM	55	205	**38**	0	298	**119**	154	35	0	308	**47**	289	21	0	357	**25**	**91**	**90**	0	**206**	**1169**
05:15 PM	50	**223**	31	0	**304**	119	**180**	39	0	**338**	25	**301**	**32**	**1**	**359**	20	82	58	0	160	1161
Total Volume	200	804	136	0	1140	386	589	144	9	1128	128	1060	98	2	1288	80	304	303	0	687	4243
% App. Total	17.5	70.5	11.9	0		34.2	52.2	12.8	0.8		9.9	82 3	7.6	0.2		11 6	44.3	44 1	0		
PHF	.877	.901	.895	.000	938	.811	.818	900	.281	.834	.681	.880	.766	.500	.897	.800	.835	842	.000	.834	907



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Groups Printed- Cars - Bus - Trucks

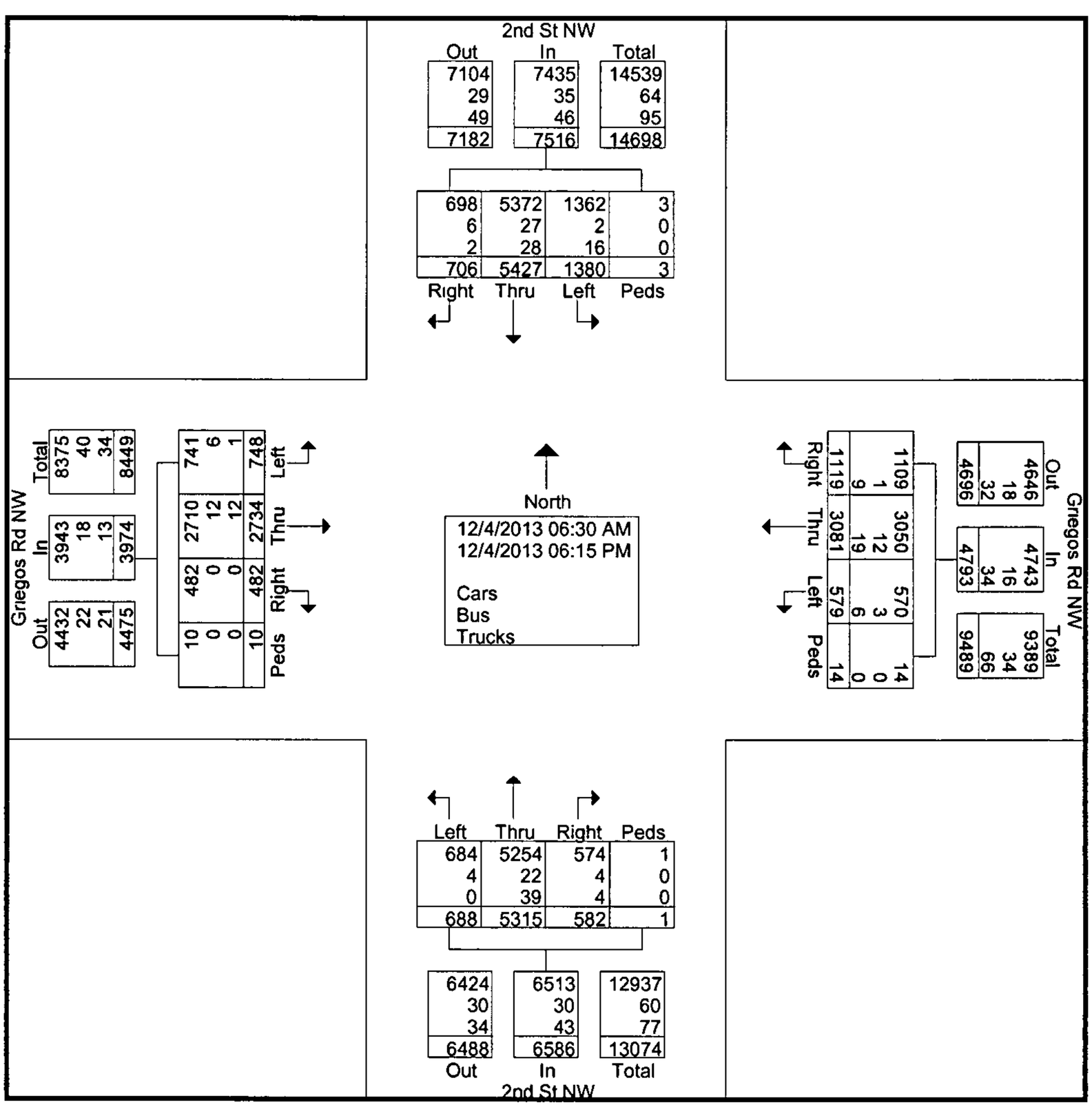
	2nd St NW From North					Griegos Rd NW From East					2nd St NW From South					Griegos Rd NW From West					
Start Time	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App. Total	Int Total
06:30 AM	10	138	46	0	194	16	20	10	1	47	11	85	2	0	98	5	66	11	0	82	421
06:45 AM	9	202	82	0	293	25	20	12	0	57	19	84	5	0	108	4	77	13	1	95	553
Total	19	340	128	0	487	41	40	22	1	104	30	169	7	0	206	9	143	24	1	177	974
07:00 AM	14	211	58	0	283	18	26	16	1	61	19	100	4	0	123	5	105	21	0	131	598
07:15 AM	12	230	44	0	286	17	47	11	0	75	18	135	8	0	161	13	91	25	1	130	652
07:30 AM	25	220	50	0	295	24	60	11	0	95	14	146	18	0	178	17	119	27	0	163	731
07:45 AM	8	228	53	0	289	30	57	21	0	108	15	156	9	0	180	36	132	38	2	208	785
Total	59	889	205	0	1153	89	190	59	1	339	66	537	39	0	642	71	447	111	3	632	2766
08:00 AM	11	240	54	0	305	23	63	19	0	105	15	126	14	0	155	19	95	22	0	136	701
08:15 AM	11	241	52	0	304	18	75	17	0	110	13	94	8	0	115	17	100	24	0	141	670
08:30 AM	13	215	53	0	281	29	89	20	1	139	11	112	17	0	140	27	91	23	0	141	701
08:45 AM	11	182	40	0	233	20	61	16	0	97	15	112	13	0	140	18	98	12	0	128	598
Total	46	878	199	0	1123	90	288	72	1	451	54	444	52	0	550	81	384	81	0	546	2670
09:00 AM	16	137	29	0	182	19	60	17	0	96	14	96	6	0	116	10	58	18	0	86	480
09:15 AM	12	141	41	0	194	18	51	21	0	90	22	96	13	0	131	10	71	10	0	91	506
*** BREAK ***																					
Total	28	278	70	0	376	37	111	38	0	186	36	192	19	0	247	20	129	28	0	177	986
*** BREAK ***																					
11:00 AM	16	104	26	1	147	23	92	12	0	127	25	100	16	0	141	15	57	16	0	88	503
11:15 AM	17	112	26	0	155	15	75	16	1	107	19	122	14	0	155	9	67	22	0	98	515
11:30 AM	21	120	29	1	171	14	74	16	0	104	15	123	21	0	159	12	72	12	1	97	531
11:45 AM	12	114	40	0	166	29	61	14	0	104	15	120	24	0	159	14	71	26	0	111	540
Total	66	450	121	2	639	81	302	58	1	442	74	465	75	0	614	50	267	76	1	394	2089
12:00 PM	24	130	23	1	178	28	75	16	1	120	14	135	17	0	166	16	68	19	0	103	567
12:15 PM	18	128	31	0	177	30	99	18	0	147	10	112	16	0	138	12	63	22	0	97	559
12:30 PM	23	109	38	0	170	20	91	13	1	125	20	117	17	0	154	12	89	22	0	123	572
12:45 PM	23	145	26	0	194	37	65	26	0	128	10	110	14	0	134	20	83	30	0	133	589
Total	88	512	118	1	719	115	330	73	2	520	54	474	64	0	592	60	303	93	0	456	2287
01:00 PM	17	123	37	0	177	27	78	18	0	123	10	132	16	0	158	19	72	22	0	113	571
01:15 PM	28	123	37	0	188	17	67	15	0	99	19	123	15	0	157	12	67	15	1	95	539
*** BREAK ***																					
Total	45	246	74	0	365	44	145	33	0	222	29	255	31	0	315	31	139	37	1	208	1110
*** BREAK ***																					
03:00 PM	19	133	37	0	189	38	93	17	0	148	18	190	14	1	223	14	72	22	1	109	669
03:15 PM	29	164	36	0	229	42	106	11	1	160	16	175	27	0	218	14	67	23	0	104	711
03:30 PM	22	156	37	0	215	47	106	22	0	175	19	171	23	0	213	12	60	28	0	100	703
03:45 PM	24	138	35	0	197	61	146	17	0	224	28	200	21	0	249	14	88	20	1	123	793
Total	94	591	145	0	830	188	451	67	1	707	81	736	85	1	903	54	287	93	2	436	2876
04:00 PM	38	159	28	0	225	39	118	16	1	174	27	202	32	0	261	4	57	18	0	79	739
04:15 PM	27	169	31	0	227	58	136	26	0	220	14	230	33	0	277	14	82	28	0	124	848
04:30 PM	24	138	37	0	199	54	129	19	2	204	25	227	41	0	293	16	72	22	0	110	806
04:45 PM	32	139	36	0	207	42	160	14	2	218	13	262	40	0	315	10	67	17	0	94	834
Total	121	605	132	0	858	193	543	75	5	816	79	921	146	0	1146	44	278	85	0	407	3227
05:00 PM	31	164	65	0	260	47	135	18	0	200	26	222	47	0	295	9	74	20	0	103	858
05:15 PM	28	126	41	0	195	62	144	14	0	220	16	226	42	0	284	12	77	26	0	115	814
05:30 PM	20	121	26	0	167	56	110	13	2	181	14	222	28	0	264	8	62	20	1	91	703
05:45 PM	17	74	16	0	107	35	109	14	0	158	7	149	27	0	183	11	47	15	1	74	522
Total	96	485	148	0	729	200	498	59	2	759	63	819	144	0	1026	40	260	81	2	383	2897
06:00 PM	17	77	23	0	117	15	86	11	0	112	10	174	17	0	201	11	49	27	0	87	517
06:15 PM	27	76	17	0	120	26	97	12	0	135	6	129	9	0	144	11	48	12	0	71	470
Grand Total	706	5427	1380	3	7516	1119	3081	579	14	4793	582	5315	688	1	6586	482	2734	748	10	3974	22869
Apprch %	9.4	72.2	18.4	0		23.3	64.3	12.1	0.3		8.8	80.7	10.4	0		12.1	68.8	18.8	0.3		
Total %	3.1	23.7	6	0	32.9	4.9	13.5	2.5	0.1	21	2.5	23.2	3	0	28.8	2.1	12	3.3	0	17.4	
Cars	698	5372	1362	3	7435	1109	3050	570	14	4743	574	5254	684	1	6513	482	2710	741	10	3943	22634
% Cars	98.9	99	98.7	100	98 9	99.1	99	98.4	100	99	98.6	98.9	99.4	100	98.9	100	99.1	99.1	100	99.2	99

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Groups Printed- Cars - Bus - Trucks

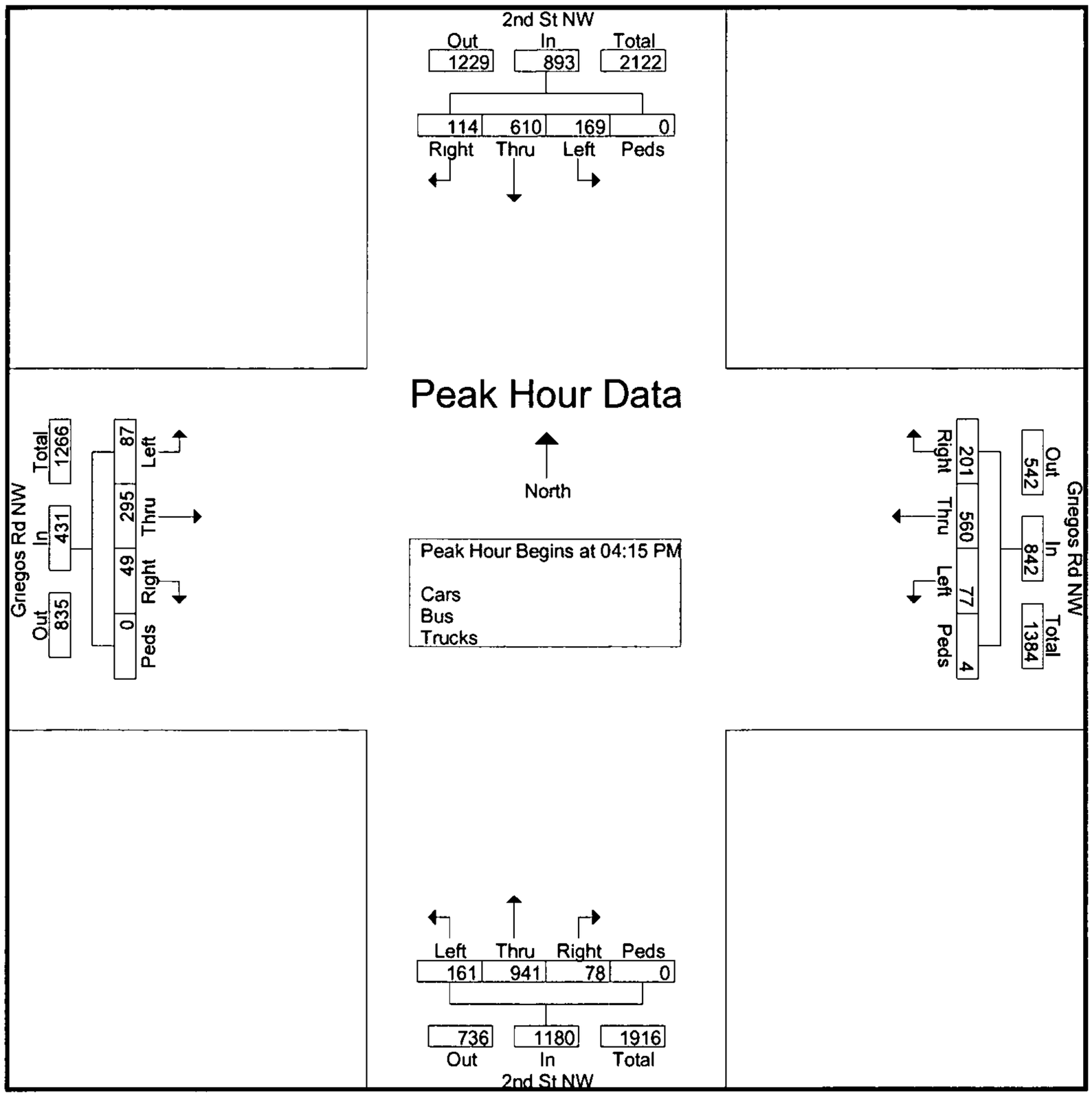
	2nd St NW From North					Griegos Rd NW From East					2nd St NW From South					Griegos Rd NW From West					
	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App. Total	Int Total
Bus	6	27	2	0	35	1	12	3	0	16	4	22	4	0	30	0	12	6	0	18	99
% Bus	0.8	0.5	0.1	0	0.5	0.1	0.4	0.5	0	0.3	0.7	0.4	0.6	0	0.5	0	0.4	0.8	0	0.5	0.4
Trucks	2	28	16	0	46	9	19	6	0	34	4	39	0	0	43	0	12	1	0	13	136
% Trucks	0.3	0.5	1.2	0	0.6	0.8	0.6	1	0	0.7	0.7	0.7	0	0	0.7	0	0.4	0.1	0	0.3	0.6



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	2nd St NW From North					Griegos Rd NW From East					2nd St NW From South					Griegos Rd NW From West					
Start Time	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Int Total
Peak Hour Analysis From 06:30 AM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	27	**169**	31	0	227	**58**	136	**26**	0	**220**	14	230	33	0	277	14	**82**	**28**	0	**124**	848
04:30 PM	24	138	37	0	199	54	129	19	**2**	204	25	227	41	0	293	**16**	72	22	0	110	806
04:45 PM	**32**	139	36	0	207	42	**160**	14	2	218	13	**262**	40	0	**315**	10	67	17	0	94	834
05:00 PM	31	164	**65**	0	**260**	47	135	18	0	200	**26**	222	**47**	0	295	9	74	20	0	103	**858**
Total Volume	114	610	169	0	893	201	560	77	4	842	78	941	161	0	1180	49	295	87	0	431	3346
% App. Total	12.8	68.3	18.9	0		23.9	66.5	9.1	0.5		6.6	79.7	13.6	0		11.4	68.4	20.2	0		
PHF	.891	.902	.650	.000	.859	.866	.875	.740	.500	.957	.750	.898	.856	.000	.937	.766	.899	.777	.000	.869	.975



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Groups Printed- Unshifted - Bus - Truck

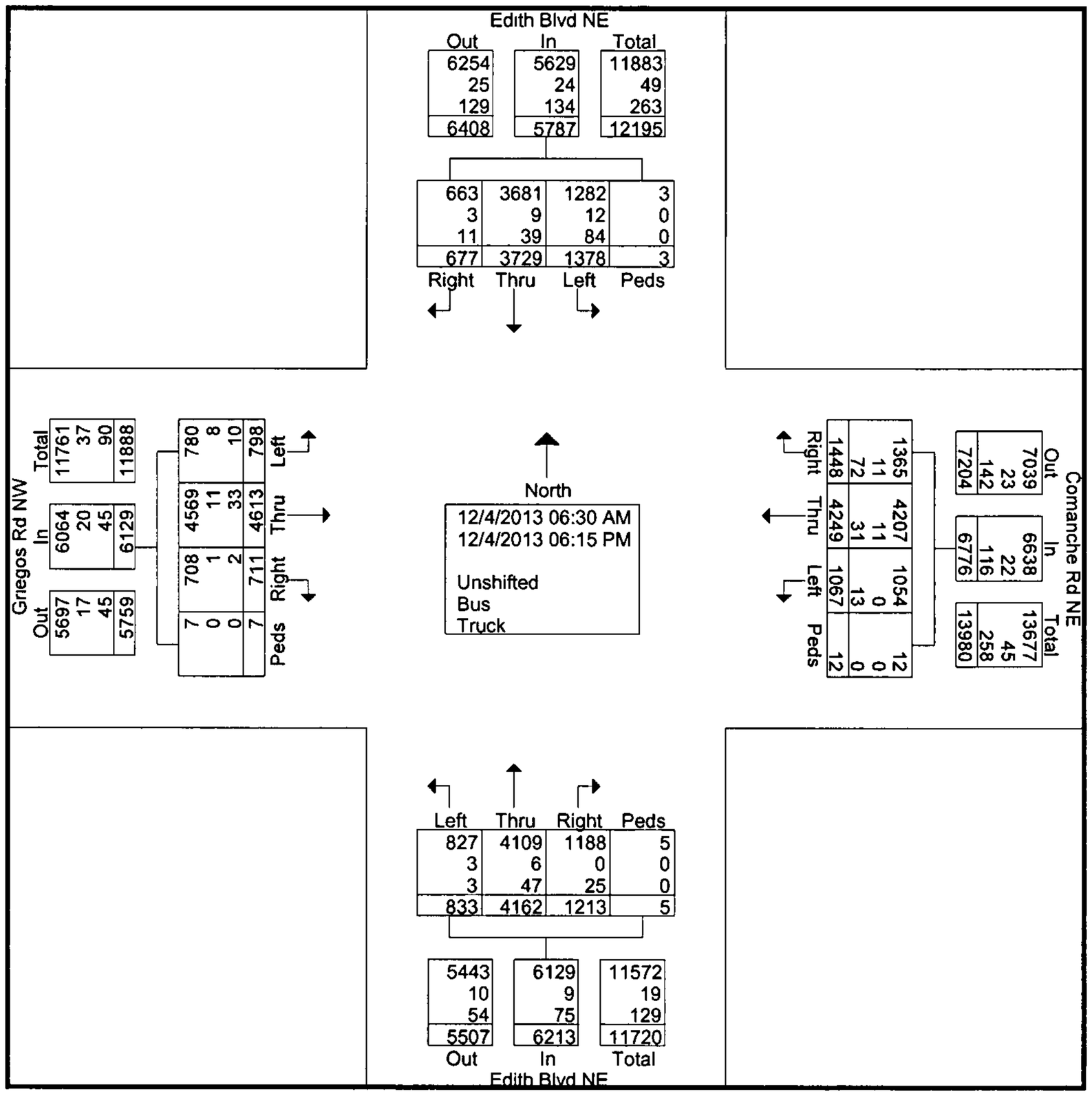
	Edith Blvd NE From North					Comanche Rd NE From East					Edith Blvd NE From South					Griegos Rd NW From West					
Start Time	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Int Total
06:30 AM	5	54	22	0	81	21	43	46	0	110	24	31	4	0	59	20	65	11	0	96	346
06:45 AM	7	63	41	0	111	29	47	60	0	136	25	41	7	0	73	51	114	18	0	183	503
Total	12	117	63	0	192	50	90	106	0	246	49	72	11	0	132	71	179	29	0	279	849
07:00 AM	14	87	26	0	127	49	52	40	1	142	22	72	9	0	103	44	148	24	0	216	588
07:15 AM	11	106	35	1	153	46	62	36	0	144	28	78	8	0	114	24	140	19	1	184	595
07:30 AM	12	158	49	0	219	51	104	42	0	197	27	128	4	0	159	18	139	43	0	200	775
07:45 AM	20	162	49	0	231	34	100	40	0	174	37	129	8	0	174	33	196	47	0	276	855
Total	57	513	159	1	730	180	318	158	1	657	114	407	29	0	550	119	623	133	1	876	2813
08:00 AM	11	125	47	0	183	31	92	40	0	163	31	66	12	0	109	34	131	30	0	195	650
08:15 AM	8	109	34	0	151	36	103	21	0	160	20	89	5	1	115	29	152	19	0	200	626
08:30 AM	11	93	44	0	148	32	123	34	0	189	43	93	21	0	157	23	167	23	0	213	707
08:45 AM	13	99	31	0	143	30	101	22	0	153	34	90	11	0	135	29	155	12	0	196	627
Total	43	426	156	0	625	129	419	117	0	665	128	338	49	1	516	115	605	84	0	804	2610
09:00 AM	17	78	35	0	130	26	91	18	0	135	42	75	23	0	140	10	93	17	0	120	525
09:15 AM	9	82	26	0	117	39	85	22	4	150	22	63	19	0	104	19	137	23	0	179	550
** BREAK ***																					
Total	26	160	61	0	247	65	176	40	4	285	64	138	42	0	244	29	230	40	0	299	1075
*** BREAK ***																					
11:00 AM	24	85	28	0	137	27	84	31	0	142	28	80	29	0	137	11	105	20	0	136	552
11:15 AM	22	86	31	0	139	36	85	16	1	138	30	121	22	2	175	18	102	15	0	135	587
11:30 AM	17	75	25	0	117	31	89	26	0	146	44	105	25	0	174	25	98	24	0	147	584
11:45 AM	14	72	18	0	104	39	94	25	0	158	36	104	22	0	162	23	106	22	1	152	576
Total	77	318	102	0	497	133	352	98	1	584	138	410	98	2	648	77	411	81	1	570	2299
12:00 PM	18	88	38	0	144	29	90	22	0	141	38	104	26	0	168	12	95	31	0	138	591
12:15 PM	14	123	25	0	162	47	125	32	0	204	48	119	19	0	186	14	137	20	2	173	725
12:30 PM	15	108	38	0	161	44	91	32	0	167	35	119	15	0	169	26	120	25	0	171	668
12:45 PM	16	109	39	0	164	45	142	44	0	231	28	110	12	0	150	16	128	21	0	165	710
Total	63	428	140	0	631	165	448	130	0	743	149	452	72	0	673	68	480	97	2	647	2694
01:00 PM	21	87	21	0	129	34	113	30	1	178	29	101	25	0	155	24	118	23	0	165	627
01:15 PM	19	91	44	0	154	38	90	38	1	167	34	87	13	1	135	27	110	19	0	156	612
** BREAK ***																					
Total	40	178	65	0	283	72	203	68	2	345	63	188	38	1	290	51	228	42	0	321	1239
** BREAK ***																					
03:00 PM	17	68	34	0	119	29	127	24	0	180	53	97	22	0	172	11	120	22	0	153	624
03:15 PM	17	115	32	0	164	48	131	31	0	210	41	155	26	0	222	20	133	20	0	173	769
03.30 PM	18	128	33	0	179	67	199	33	0	299	63	173	41	0	277	24	146	17	0	187	942
03:45 PM	34	139	54	0	227	57	185	37	0	279	30	158	26	0	214	24	183	32	0	239	959
Total	86	450	153	0	689	201	642	125	0	968	187	583	115	0	885	79	582	91	0	752	3294
04.00 PM	36	152	73	0	261	46	213	30	0	289	58	224	50	1	333	13	162	32	2	209	1092
04:15 PM	29	177	52	0	258	53	180	24	0	257	49	218	46	0	313	13	169	21	0	203	1031
04:30 PM	33	136	80	0	249	43	175	18	0	236	33	182	71	0	286	28	162	26	0	216	987
04:45 PM	29	124	46	1	200	45	172	30	0	247	44	181	54	0	279	9	95	16	0	120	846
Total	127	589	251	1	968	187	740	102	0	1029	184	805	221	1	1211	63	588	95	2	748	3956
05:00 PM	28	151	66	0	245	40	159	26	1	226	44	226	45	0	315	4	154	15	0	173	959
05:15 PM	39	115	50	0	204	52	157	30	2	241	23	188	45	0	256	2	186	39	1	228	929
05:30 PM	33	117	35	0	185	49	146	20	0	215	24	131	23	0	178	6	103	17	0	126	704
05:45 PM	21	59	24	0	104	56	170	26	0	252	14	75	15	0	104	18	76	16	0	110	570
Total	121	442	175	0	738	197	632	102	3	934	105	620	128	0	853	30	519	87	1	637	3162
06:00 PM	12	57	21	1	91	46	115	13	1	175	13	87	13	0	113	3	87	7	0	97	476
06:15 PM	13	51	32	0	96	23	114	8	0	145	19	62	17	0	98	6	81	12	0	99	438
Grand Total	677	3729	1378	3	5787	1448	4249	1067	12	6776	1213	4162	833	5	6213	711	4613	798	7	6129	24905
Apprch %	11.7	64.4	23.8	0.1		21.4	62.7	15.7	0.2		19.5	67	13.4	0.1		11.6	75.3	13	0.1		
Total %	2.7	15	5.5	0	23.2	5.8	17.1	4.3	0	27.2	4.9	16.7	3.3	0	24.9	2.9	18.5	3.2	0	24.6	
Unshifted	663	3681	1282	3	5629	1365	4207	1054	12	6638	1188	4109	827	5	6129	708	4569	780	7	6064	24460
% Unshifted	97.9	98.7	93	100	97.3	94.3	99	98.8	100	98	97.9	98.7	99.3	100	98.6	99.6	99	97.7	100	98.9	98.2

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File Name : Edith
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Groups Printed- Unshifted - Bus - Truck

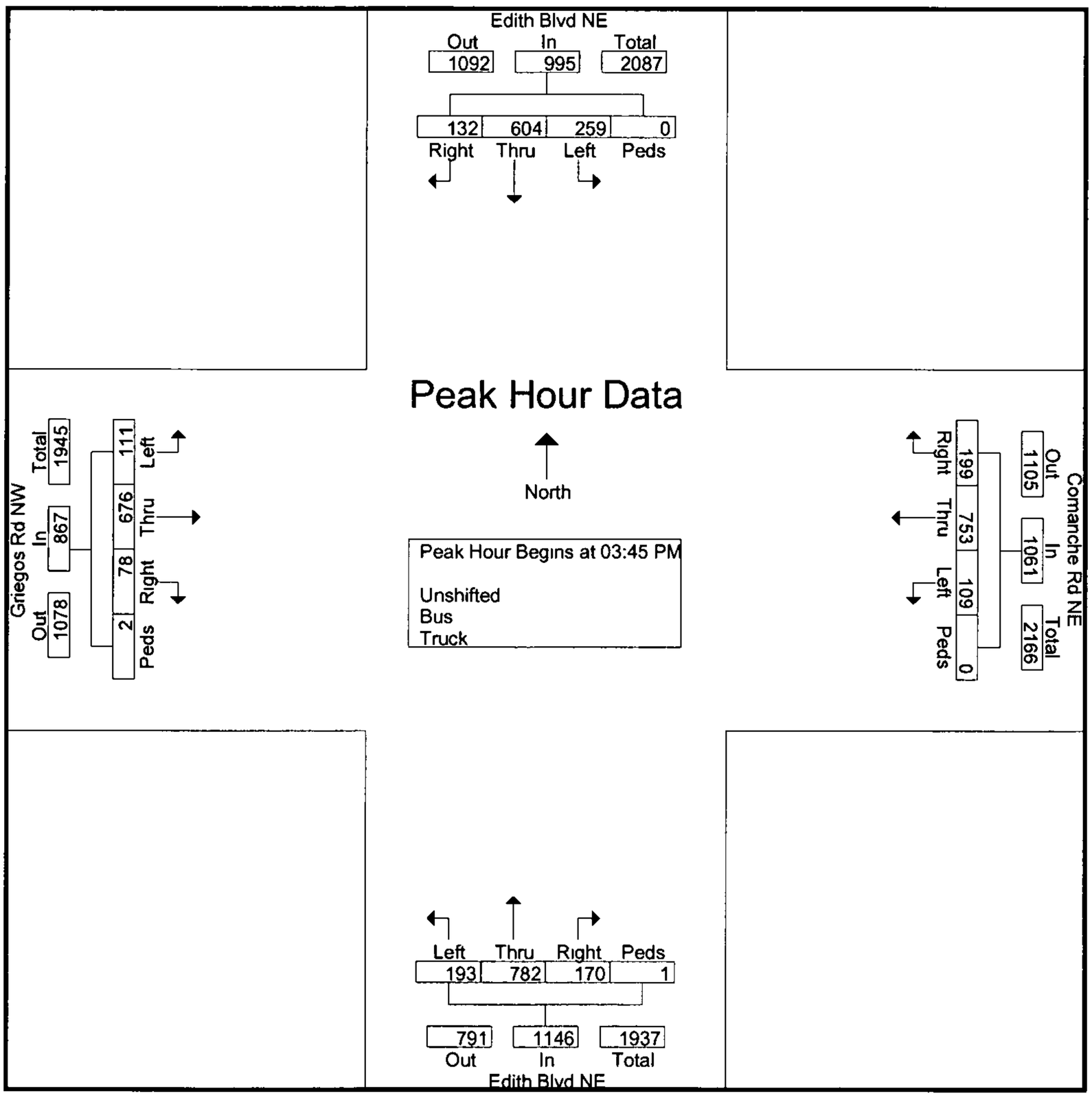
	Edith Blvd NE From North					Comanche Rd NE From East					Edith Blvd NE From South					Griegos Rd NW From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Int Total
Bus	3	9	12	0	24	11	11	0	0	22	0	6	3	0	9	1	11	8	0	20	75
% Bus	0.4	0.2	0.9	0	0.4	0.8	0.3	0	0	0.3	0	0.1	0.4	0	0.1	0.1	0.2	1	0	0.3	0.3
Truck	11	39	84	0	134	72	31	13	0	116	25	47	3	0	75	2	33	10	0	45	370
% Truck	1.6	1	6.1	0	2.3	5	0.7	1.2	0	1.7	2.1	1.1	0.4	0	1.2	0.3	0.7	1.3	0	0.7	1.5



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505-348-4000

File Name : Edith
Site Code : 00000001
Start Date : 12/4/2013
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	Edith Blvd NE From North					Comanche Rd NE From East					Edith Blvd NE From South					Griegos Rd NW From West					
Start Time	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Int Total
Peak Hour Analysis From 06:30 AM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	34	139	54	0	227	**57**	185	**37**	0	279	30	158	26	0	214	24	**183**	**32**	0	**239**	959
04:00 PM	**36**	152	73	0	**261**	46	**213**	30	0	**289**	**58**	**224**	50	**1**	**333**	13	162	32	**2**	209	**1092**
04:15 PM	29	**177**	52	0	258	53	180	24	0	257	49	218	46	0	313	13	169	21	0	203	1031
04:30 PM	33	136	**80**	0	249	43	175	18	0	236	33	182	**71**	0	286	**28**	162	26	0	216	987
Total Volume	132	604	259	0	995	199	753	109	0	1061	170	782	193	1	1146	78	676	111	2	867	4069
% App Total	13.3	60.7	26	0		18.8	71	10.3	0		14.8	68.2	16.8	0.1		9	78	12.8	0.2		
PHF	.917	.853	.809	.000	.953	.873	.884	.736	.000	.918	.733	.873	.680	.250	.860	.696	.923	.867	.250	.907	.932



WILSON & COMPANY
900 Lang Ave. NE
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05-348-4000

File Name : PanAmerican-Southbound_2
Site Code : 33333333
Start Date : 12/12/2013
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Groups Printed- Unshifted - Bus - Truck

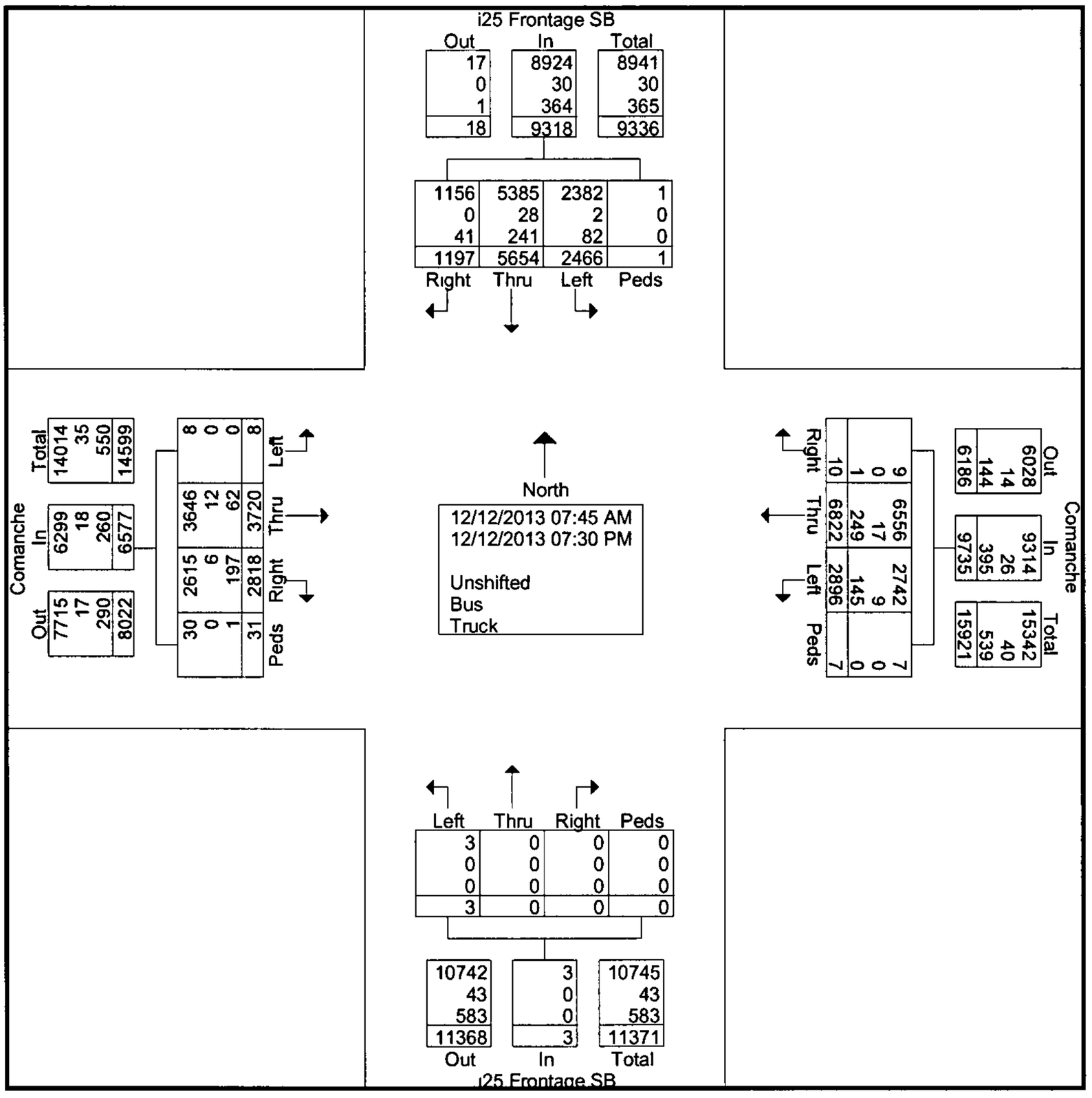
	i25 Frontage SB From North					Comanche From East					i25 Frontage SB From South					Comanche From West					
Start Time	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Int Total
07:45 AM	24	76	33	0	133	0	180	38	1	219	0	0	3	0	3	64	56	0	1	121	476
Total	24	76	33	0	133	0	180	38	1	219	0	0	3	0	3	64	56	0	1	121	476
08:00 AM	46	124	64	0	234	0	233	76	0	309	0	0	0	0	0	61	78	0	0	139	682
08:15 AM	27	110	56	0	193	0	172	66	0	238	0	0	0	0	0	72	108	0	0	180	611
08:30 AM	36	165	60	0	261	0	246	77	0	323	0	0	0	0	0	96	102	0	0	198	782
08:45 AM	37	176	63	1	277	0	255	92	0	347	0	0	0	0	0	77	103	0	0	180	804
Total	146	575	243	1	965	0	906	311	0	1217	0	0	0	0	0	306	391	0	0	697	2879
09:00 AM	34	187	90	0	311	0	226	114	0	340	0	0	0	0	0	90	137	0	0	227	878
09:15 AM	31	172	71	0	274	0	194	98	0	292	0	0	0	0	0	73	122	0	0	195	761
09:30 AM	25	142	81	0	248	0	227	81	0	308	0	0	0	0	0	81	101	0	0	182	738
09:45 AM	29	155	74	0	258	0	176	74	0	250	0	0	0	0	0	71	114	0	0	185	693
Total	119	656	316	0	1091	0	823	367	0	1190	0	0	0	0	0	315	474	0	0	789	3070
10:00 AM	31	145	64	0	240	0	171	82	0	253	0	0	0	0	0	80	131	0	0	211	704
10:15 AM	26	127	60	0	213	0	144	75	0	219	0	0	0	0	0	76	102	0	0	178	610
10:30 AM	35	144	46	0	225	0	119	66	0	185	0	0	0	0	0	65	85	0	0	150	560
*** BREAK ***																					
Total	92	416	170	0	678	0	434	223	0	657	0	0	0	0	0	221	318	0	0	539	1874
** BREAK ***																					
12:30 PM	36	145	81	0	262	0	143	66	0	209	0	0	0	0	0	66	90	0	5	161	632
12:45 PM	24	137	64	0	225	0	165	67	0	232	0	0	0	0	0	73	92	0	0	165	622
Total	60	282	145	0	487	0	308	133	0	441	0	0	0	0	0	139	182	0	5	326	1254
01:00 PM	35	169	75	0	279	0	154	79	0	233	0	0	0	0	0	73	90	0	1	164	676
01:15 PM	28	151	61	0	240	0	152	67	0	219	0	0	0	0	0	55	90	0	2	147	606
01:30 PM	35	169	80	0	284	5	146	65	0	216	0	0	0	0	0	61	117	0	1	179	679
01:45 PM	27	139	68	0	234	0	187	70	0	257	0	0	0	0	0	59	96	0	0	155	646
Total	125	628	284	0	1037	5	639	281	0	925	0	0	0	0	0	248	393	0	4	645	2607
02:00 PM	33	157	62	0	252	0	169	76	1	246	0	0	0	0	0	49	101	0	3	153	651
02:15 PM	32	185	94	0	311	0	184	55	0	239	0	0	0	0	0	71	107	0	0	178	728
02:30 PM	41	173	78	0	292	0	166	69	1	236	0	0	0	0	0	56	90	0	0	146	674
02:45 PM	35	164	85	0	284	0	183	81	1	265	0	0	0	0	0	68	98	0	0	166	715
Total	141	679	319	0	1139	0	702	281	3	986	0	0	0	0	0	244	396	0	3	643	2768
** BREAK ***																					
04:15 PM	29	190	93	0	312	1	208	76	0	285	0	0	0	0	0	118	113	0	0	231	828
04:30 PM	44	192	80	0	316	0	233	92	1	326	0	0	0	0	0	91	129	0	1	221	863
04:45 PM	30	175	87	0	292	0	217	96	0	313	0	0	0	0	0	118	132	0	0	250	855
Total	103	557	260	0	920	1	658	264	1	924	0	0	0	0	0	327	374	0	1	702	2546
05:00 PM	43	179	86	0	308	0	222	79	1	302	0	0	0	0	0	127	125	0	8	260	870
05:15 PM	43	175	75	0	293	0	208	107	0	315	0	0	0	0	0	111	95	0	1	207	815
05:30 PM	41	163	70	0	274	1	204	98	0	303	0	0	0	0	0	86	104	0	1	191	768
05:45 PM	45	197	79	0	321	0	228	108	0	336	0	0	0	0	0	93	101	0	1	195	852
Total	172	714	310	0	1196	1	862	392	1	1256	0	0	0	0	0	417	425	0	11	853	3305
06:00 PM	37	160	89	0	286	0	248	106	0	354	0	0	0	0	0	80	103	0	0	183	823
06:15 PM	40	208	69	0	317	0	227	120	1	348	0	0	0	0	0	118	135	0	1	254	919
06:30 PM	33	180	77	0	290	3	207	82	0	292	0	0	0	0	0	95	122	8	1	226	808
06:45 PM	35	186	54	0	275	0	182	93	0	275	0	0	0	0	0	77	117	0	0	194	744
Total	145	734	289	0	1168	3	864	401	1	1269	0	0	0	0	0	370	477	8	2	857	3294
07:00 PM	18	126	35	0	179	0	204	88	0	292	0	0	0	0	0	72	78	0	1	151	622
07:15 PM	23	118	38	0	179	0	132	66	0	198	0	0	0	0	0	51	84	0	0	135	512
07:30 PM	29	93	24	0	146	0	110	51	0	161	0	0	0	0	0	44	72	0	3	119	426
Grand Total	1197	5654	2466	1	9318	10	6822	2896	7	9735	0	0	3	0	3	2818	3720	8	31	6577	25633
Apprch %	12.8	60.7	26.5	0		0.1	70.1	29.7	0.1		0	0	100	0		42.8	56.6	0.1	0.5		
Total %	4.7	22.1	9.6	0	36.4	0	26.6	11.3	0	38	0	0	0	0	0	11	14.5	0	0.1	25.7	

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File Name : PanAmerican-Southbound_
Site Code : 33333333
Start Date : 12/12/2013
Page No : 2

Groups Printed- Unshifted - Bus - Truck

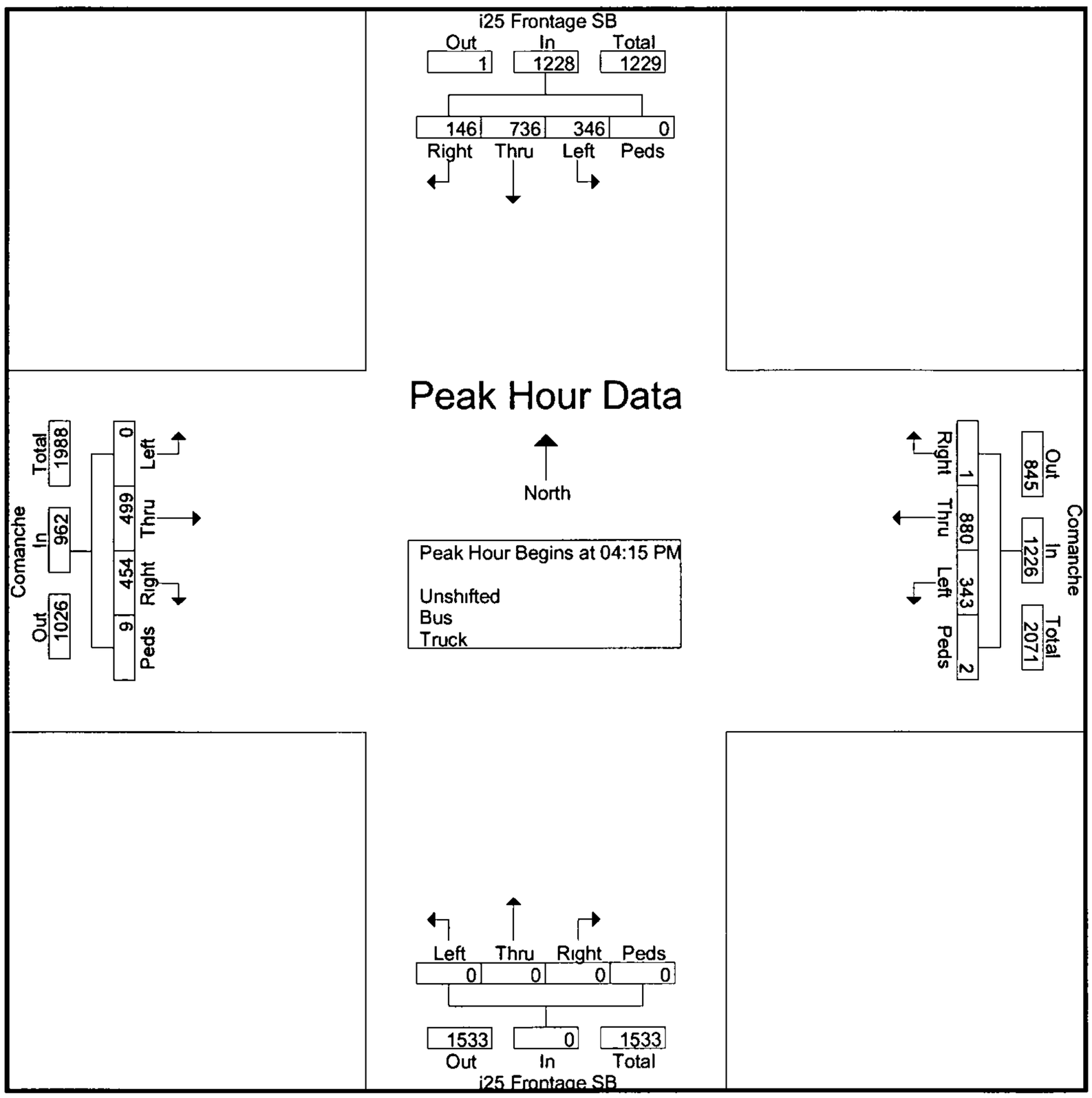
	i25 Frontage SB From North					Comanche From East					i25 Frontage SB From South					Comanche From West					
	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Int Total
Unshifted	1156	5385	2382	1	8924	9	6556	2742	7	9314	0	0	3	0	3	2615	3646	8	30	6299	24540
% Unshifted	96.6	95.2	96.6	100	95.8	90	96.1	94.7	100	95.7	0	0	100	0	100	92.8	98	100	96.8	95.8	95.7
Bus	0	28	2	0	30	0	17	9	0	26	0	0	0	0	0	6	12	0	0	18	74
% Bus	0	0.5	0.1	0	0.3	0	0.2	0.3	0	0.3	0	0	0	0	0	0.2	0.3	0	0	0.3	0.3
Truck	41	241	82	0	364	1	249	145	0	395	0	0	0	0	0	197	62	0	1	260	1019
% Truck	3.4	4.3	3.3	0	3.9	10	3.6	5	0	4.1	0	0	0	0	0	7	1.7	0	3.2	4	4



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File Name : PanAmerican-Southbound_2
Site Code : 33333333
Start Date : 12/12/2013

	i25 Frontage SB From North					Comanche From East					i25 Frontage SB From South					Comanche From West					
Start Time	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Int Total
Peak Hour Analysis From 07:45 AM to 07:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	29	190	**93**	0	312	**1**	208	76	0	285	0	0	0	0	0	118	113	0	0	231	828
04:30 PM	**44**	**192**	80	0	**316**	0	**233**	92	**1**	**326**	0	0	0	0	0	91	129	0	1	221	863
04:45 PM	30	175	87	0	292	0	217	**96**	0	313	0	0	0	0	0	118	**132**	0	0	250	855
05:00 PM	43	179	86	0	308	0	222	79	1	302	0	0	0	0	0	**127**	125	0	**8**	**260**	**870**
Total Volume	146	736	346	0	1228	1	880	343	2	1226	0	0	0	0	0	454	499	0	9	962	3416
% App. Total	11 9	59.9	28 2	0		0.1	71.8	28	0.2		0	0	0	0		47 2	51.9	0	0 9		
PHF	.830	.958	930	.000	.972	.250	.944	.893	.500	.940	000	.000	000	.000	.000	.894	.945	000	.281	.925	.982



WILSON &COMPANY
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File Name : panamerican-northbound_2
Site Code : 00000000
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Groups Printed- Unshifted - Bus - Truck

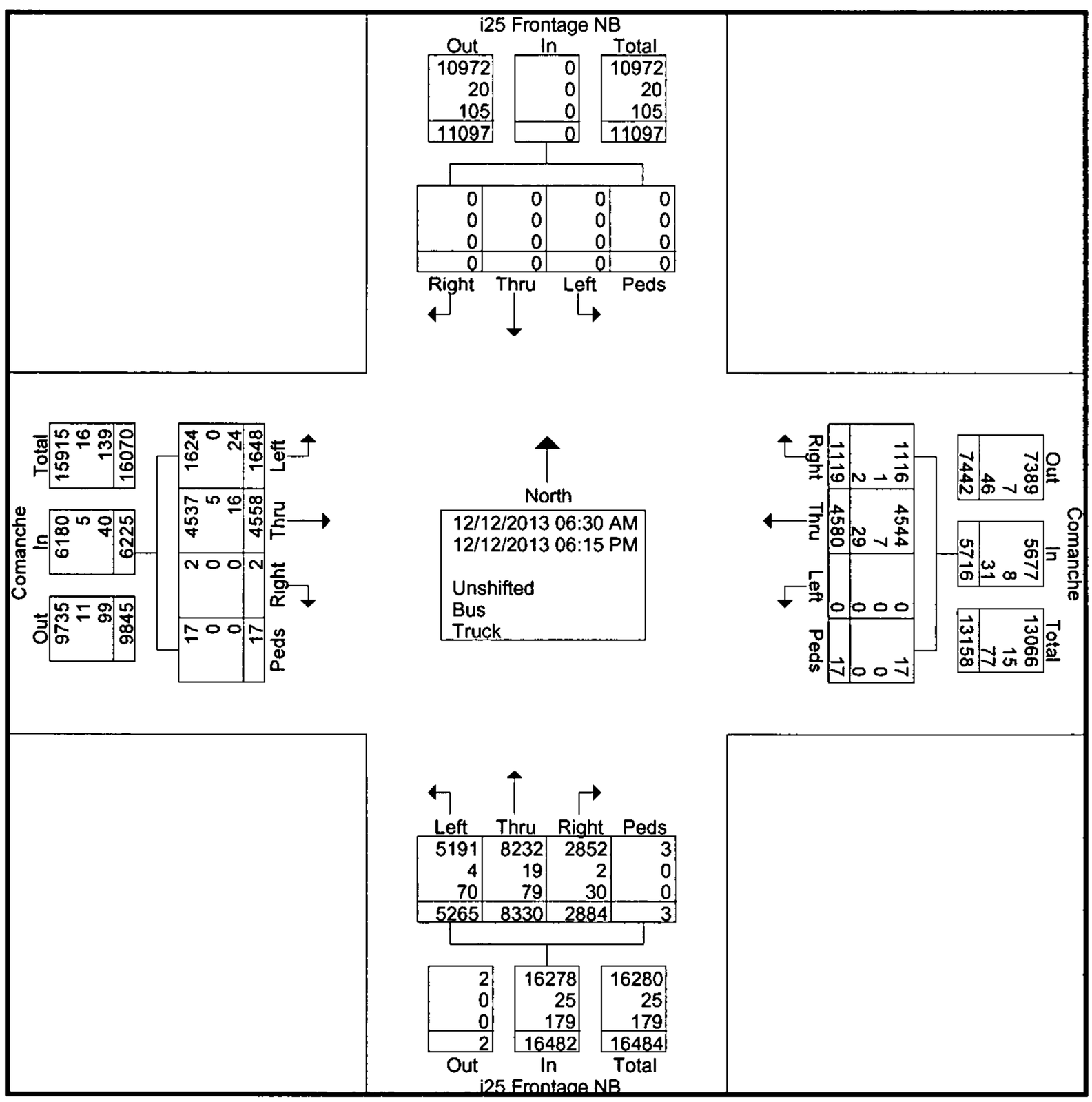
	i25 Frontage NB From North					Comanche From East					i25 Frontage NB From South					Comanche From West					
Start Time	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Int Total
06:30 AM	0	0	0	0	0	21	67	0	0	88	42	81	161	0	284	0	52	23	1	76	448
06:45 AM	0	0	0	0	0	13	92	0	1	106	96	102	208	0	406	0	108	28	0	136	648
Total	0	0	0	0	0	34	159	0	1	194	138	183	369	0	690	0	160	51	1	212	1096
07:00 AM	0	0	0	0	0	20	85	0	0	105	77	108	166	0	351	0	118	43	1	162	618
07:15 AM	0	0	0	0	0	17	124	0	0	141	74	146	204	0	424	0	127	53	0	180	745
07:30 AM	0	0	0	0	0	25	154	0	0	179	86	208	205	0	499	0	123	39	0	162	840
07:45 AM	0	0	0	0	0	40	165	0	0	205	100	190	222	0	512	0	175	59	0	234	951
Total	0	0	0	0	0	102	528	0	0	630	337	652	797	0	1786	0	543	194	1	738	3154
08:00 AM	0	0	0	0	0	39	119	0	0	158	121	192	159	0	472	0	134	52	0	186	816
08:15 AM	0	0	0	0	0	25	118	0	0	143	106	177	189	0	472	0	135	61	0	196	811
08:30 AM	0	0	0	0	0	15	122	0	0	137	89	183	143	0	415	0	118	58	0	176	728
08:45 AM	0	0	0	0	0	26	118	0	0	144	101	184	162	0	447	0	150	58	0	208	799
Total	0	0	0	0	0	105	477	0	0	582	417	736	653	0	1806	0	537	229	0	766	3154
09:00 AM	0	0	0	0	0	31	103	0	0	134	66	179	123	0	368	0	112	50	0	162	664
09:15 AM	0	0	0	0	0	27	88	0	0	115	58	179	117	0	354	0	100	40	0	140	609
** BREAK ***																					
Total	0	0	0	0	0	58	191	0	0	249	124	358	240	0	722	0	212	90	0	302	1273
** BREAK ***																					
11:00 AM	0	0	0	0	0	40	106	0	1	147	67	224	92	0	383	0	126	39	0	165	695
11:15 AM	0	0	0	0	0	28	88	0	0	116	71	242	117	0	430	0	128	53	0	181	727
11:30 AM	0	0	0	0	0	31	101	0	0	132	64	233	128	0	425	0	111	44	0	155	712
11:45 AM	0	0	0	0	0	31	118	0	0	149	76	224	107	0	407	0	126	34	1	161	717
Total	0	0	0	0	0	130	413	0	1	544	278	923	444	0	1645	0	491	170	1	662	2851
12:00 PM	0	0	0	0	0	44	114	0	1	159	75	241	105	0	421	1	128	33	1	163	743
12:15 PM	0	0	0	0	0	28	107	0	1	136	74	252	122	0	448	0	147	46	1	194	778
12:30 PM	0	0	0	0	0	37	109	0	1	147	58	217	148	0	423	0	122	42	0	164	734
12:45 PM	0	0	0	0	0	31	104	0	2	137	73	221	121	0	415	0	131	46	0	177	729
Total	0	0	0	0	0	140	434	0	5	579	280	931	496	0	1707	1	528	167	2	698	2984
01:00 PM	0	0	0	0	0	30	126	0	1	157	79	217	127	0	423	0	142	49	0	191	771
01:15 PM	0	0	0	0	0	33	105	0	0	138	72	253	110	0	435	0	130	40	0	170	743
** BREAK ***																					
Total	0	0	0	0	0	63	231	0	1	295	151	470	237	0	858	0	272	89	0	361	1514
*** BREAK ***																					
03:00 PM	0	0	0	0	0	41	148	0	1	190	79	231	135	0	445	0	142	50	0	192	827
03:15 PM	0	0	0	0	0	40	164	0	3	207	88	264	143	0	495	0	144	53	1	198	900
03:30 PM	0	0	0	0	0	40	172	0	0	212	79	290	161	1	531	0	151	51	0	202	945
03:45 PM	0	0	0	0	0	32	152	0	1	185	85	307	157	0	549	0	177	52	0	229	963
Total	0	0	0	0	0	153	636	0	5	794	331	1092	596	1	2020	0	614	206	1	821	3635
04:00 PM	0	0	0	0	0	34	172	0	2	208	88	322	151	1	562	0	153	48	1	202	972
04:15 PM	0	0	0	0	0	34	161	0	0	195	82	346	152	0	580	0	144	41	1	186	961
04:30 PM	0	0	0	0	0	34	189	0	0	223	98	294	160	0	552	0	139	43	2	184	959
04:45 PM	0	0	0	0	0	43	175	0	0	218	111	316	167	0	594	0	135	45	0	180	992
Total	0	0	0	0	0	145	697	0	2	844	379	1278	630	1	2288	0	571	177	4	752	3884
05:00 PM	0	0	0	0	0	37	180	0	1	218	97	385	182	0	664	0	133	70	2	205	1087
05:15 PM	0	0	0	0	0	32	153	0	1	186	98	364	158	0	620	1	145	46	0	192	998
05:30 PM	0	0	0	0	0	39	147	0	0	186	88	294	145	0	527	0	132	41	1	174	887
05:45 PM	0	0	0	0	0	31	144	0	0	175	65	237	131	1	434	0	87	43	1	131	740
Total	0	0	0	0	0	139	624	0	2	765	348	1280	616	1	2245	1	497	200	4	702	3712

WILSON
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4900 Lang Ave. NE
Albuquerque, NM 87109
505-348-4000

File Name : panamerican-northbound_2
Site Code : 00000000
Start Date : 12/12/2013
Page No : 2

Groups Printed- Unshifted - Bus - Truck

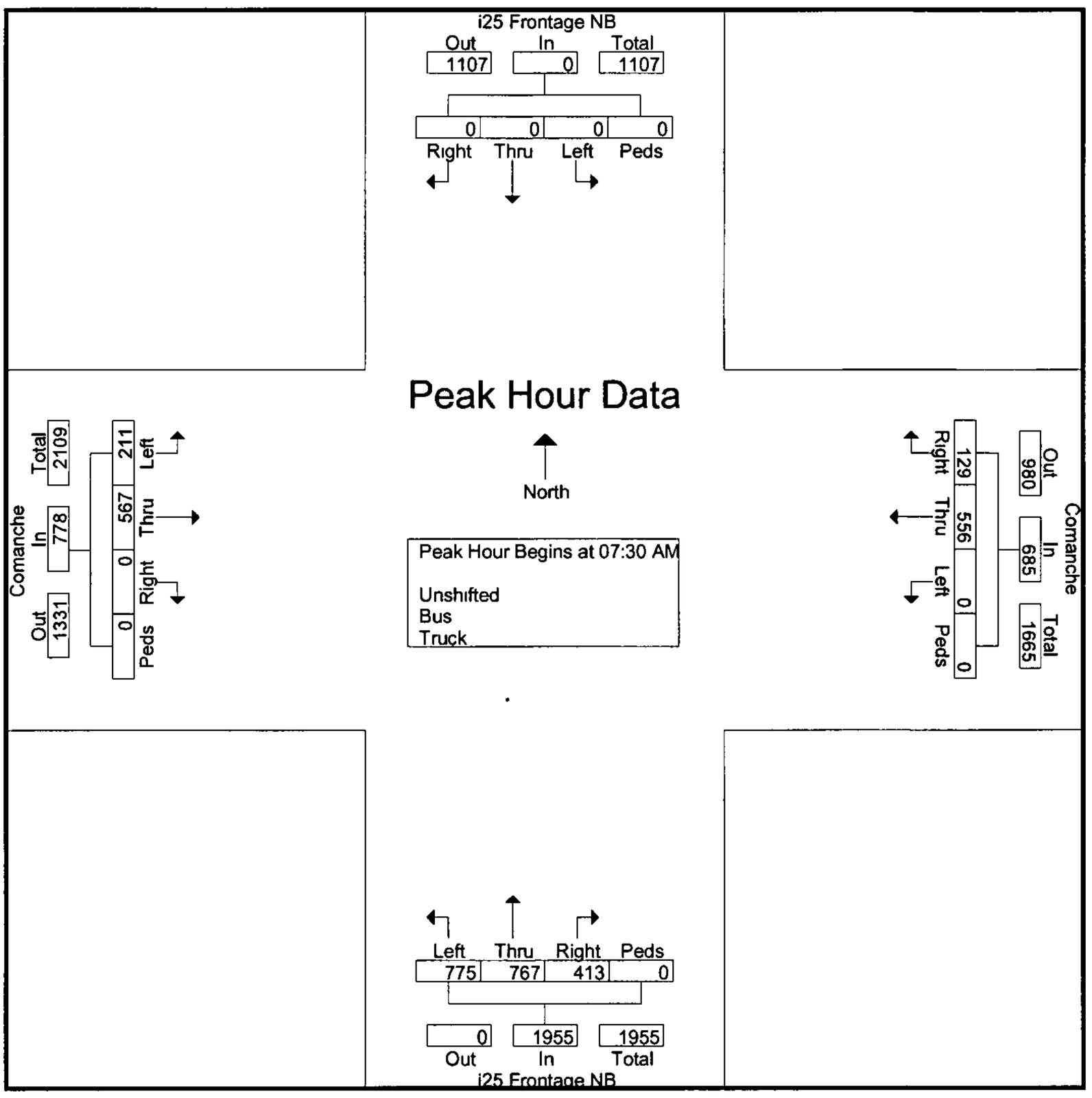
	i25 Frontage NB From North					Comanche From East					i25 Frontage NB From South					Comanche From West					
Start Time	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Int. Total
06:00 PM	0	0	0	0	0	30	95	0	0	125	60	249	106	0	415	0	77	36	0	113	653
06:15 PM	0	0	0	0	0	20	95	0	0	115	41	178	81	0	300	0	56	39	3	98	513
Grand Total	0	0	0	0	0	1119	4580	0	17	5716	2884	8330	5265	3	16482	2	4558	1648	17	6225	28423
Apprch %	0	0	0	0		19.6	80.1	0	0.3		17.5	50.5	31.9	0		0	73.2	26.5	0.3		
Total %	0	0	0	0	0	3.9	16.1	0	0.1	20.1	10.1	29.3	18 5	0	58	0	16	5.8	0.1	21.9	
Unshifted	0	0	0	0	0	1116	4544	0	17	5677	2852	8232	5191	3	16278	2	4537	1624	17	6180	28135
% Unshifted	0	0	0	0	0	99.7	99.2	0	100	99.3	98.9	98.8	98.6	100	98.8	100	99.5	98.5	100	99.3	99
Bus	0	0	0	0	0	1	7	0	0	8	2	19	4	0	25	0	5	0	0	5	38
% Bus	0	0	0	0	0	0.1	0.2	0	0	0.1	0.1	0.2	0.1	0	0.2	0	0.1	0	0	0.1	0.1
Truck	0	0	0	0	0	2	29	0	0	31	30	79	70	0	179	0	16	24	0	40	250
% Truck	0	0	0	0	0	0.2	0.6	0	0	0.5	1	0.9	1.3	0	1.1	0	0.4	1.5	0	0.6	0.9



WILSON
&COMPANY
900 Lang Ave. NE
Albuquerque, NM 87109
05-348-4000

File Name : panamerican-northbound_2
Site Code : 00000000
Start Date : 12/12/2013
Page No : 3

	i25 Frontage NB From North					Comanche From East					i25 Frontage NB From South					Comanche From West					
Start Time	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Int. Total
Peak Hour Analysis From 06:30 AM to 09:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	25	154	0	0	179	86	**208**	205	0	499	0	123	39	0	162	840
07:45 AM	0	0	0	0	0	**40**	**165**	0	0	**205**	100	190	**222**	0	**512**	0	**175**	59	0	**234**	**951**
08:00 AM	0	0	0	0	0	39	119	0	0	158	**121**	192	159	0	472	0	134	52	0	186	816
08:15 AM	0	0	0	0	0	25	118	0	0	143	106	177	189	0	472	0	135	**61**	0	196	811
Total Volume	0	0	0	0	0	129	556	0	0	685	413	767	775	0	1955	0	567	211	0	778	3418
% App. Total	0	0	0	0		18.8	81.2	0	0		21.1	39.2	39.6	0		0	72.9	27.1	0		
PHF	.000	.000	.000	000	000	.806	.842	000	000	835	.853	.922	.873	.000	.955	.000	.810	.865	.000	.831	.899



Appendix C
Capacity Calculations

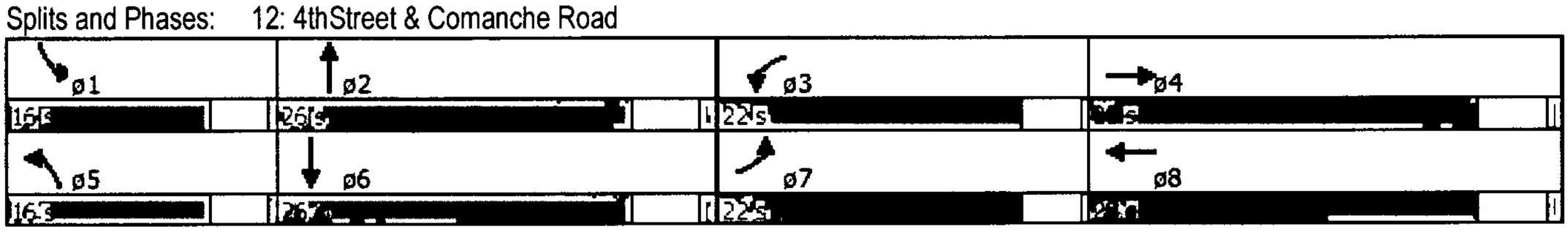
WILSON &COMPANY

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	3.0	12.0		3.0	12.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	8.0	28.0		16.0	28.0		16.0	32.0		16.0	32.0	
Total Split (s)	22.0	28.0		22.0	28.0		16.0	26.0		16.0	26.0	
Total Split (%)	23.9%	30.4%		23.9%	30.4%		17.4%	28.3%		17.4%	28.3%	
Maximum Green (s)	18.0	23.0		18.0	23.0		12.0	21.0		12.0	21.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.5	1.0		0.5	1.0		0.5	1.0		0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	Max		None	Max	
Walk Time (s)		8.0			8.0			8.0			8.0	
Flash Dont Walk (s)		14.0			14.0			14.0			14.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	16.7	22.5		9.7	13.4		6.6	22.1		11.6	33.2	
Actuated g/C Ratio	0.20	0.28		0.12	0.16		0.08	0.27		0.14	0.41	
v/c Ratio	0.79	0.53		0.45	0.53		0.15	0.55		0.75	0.66	
Control Delay	48.8	27.4		40.9	23.5		38.6	28.3		55.0	24.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	48.8	27.4		40.9	23.5		38.6	28.3		55.0	24.7	
LOS	D	C		D	C		D	C		D	C	
Approach Delay		35.1			27.3			28.7			29.8	
Approach LOS		D			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 92
Actuated Cycle Length: 81.8
Natural Cycle: 95
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 30.7 Intersection LOS: C
Intersection Capacity Utilization 67.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 12: 4thStreet & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases												6
Detector Phase	3	8		7	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	18.0		3.0	18.0	18.0
Minimum Split (s)	16.0	44.5		16.0	45.5		16.0	38.0		16.0	38.0	38.0
Total Split (s)	16.0	44.5		16.0	45.5		16.0	34.0		20.0	38.0	38.0
Total Split (%)	13.9%	38.5%		13.9%	39.4%		13.9%	29.4%		17.3%	32.9%	32.9%
Maximum Green (s)	12.0	39.0		12.0	40.0		12.5	29.0		16.0	33.0	33.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.5	4.0	4.0
All-Red Time (s)	0.5	2.0		0.5	2.0		0.5	1.0		0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.5		4.0	5.5		3.5	5.0		4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	Max		None	Max	Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		32.0			33.0			20.0			21.0	21.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	10.7	22.4		8.8	18.2		8.2	29.3		15.3	39.1	39.1
Actuated g/C Ratio	0.12	0.24		0.10	0.20		0.09	0.32		0.17	0.42	0.42
v/c Ratio	0.60	0.66		0.40	0.49		0.34	0.61		0.74	0.67	0.09
Control Delay	53.4	35.3		48.3	29.1		47.6	30.6		55.0	27.1	2.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	53.4	35.3		48.3	29.1		47.6	30.6		55.0	27.1	2.3
LOS	D	D		D	C		D	C		D	C	A
Approach Delay		38.5			32.2			31.8			30.7	
Approach LOS		D			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 115.5

Actuated Cycle Length: 92.2

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

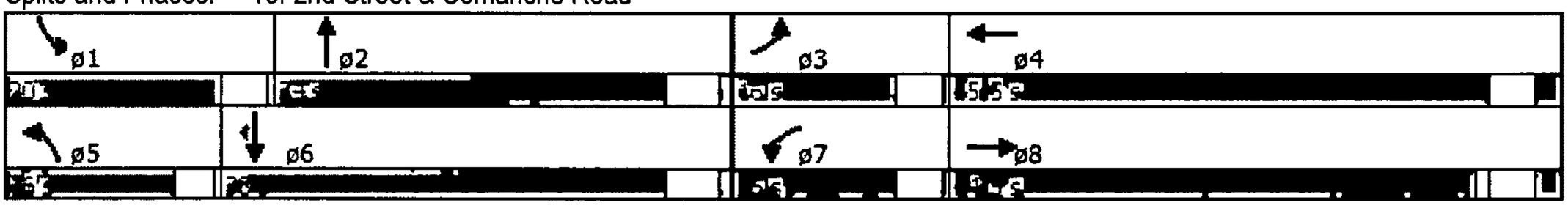
Maximum v/c Ratio: 0.74

Intersection Signal Delay: 32.9 Intersection LOS: C

Intersection Capacity Utilization 67.3% ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 15: 2nd Street & Comanche Road

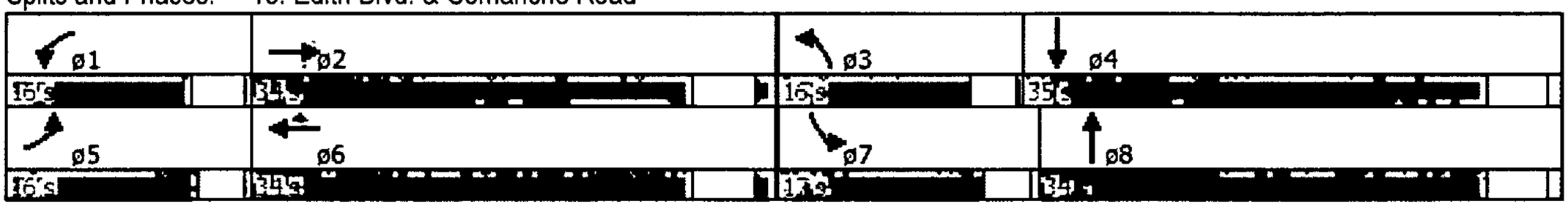


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						6			2			
Detector Phase	5	2		1	6	6	3	8	2	7	4	
Switch Phase												
Minimum Initial (s)	3.0	16.0		3.0	16.0	16.0	3.0	8.0	16.0	3.0	8.0	
Minimum Split (s)	16.0	32.5		16.0	33.5	33.5	16.0	34.0	32.5	16.0	34.0	
Total Split (s)	16.0	34.0		16.0	34.0	34.0	16.0	34.0	34.0	17.0	35.0	
Total Split (%)	15.8%	33.7%		15.8%	33.7%	33.7%	15.8%	33.7%	33.7%	16.8%	34.7%	
Maximum Green (s)	12.5	28.5		12.0	28.5	28.5	12.5	29.0	28.5	13.5	30.0	
Yellow Time (s)	3.0	4.0		3.5	4.0	4.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.5	1.5		0.5	1.5	1.5	0.5	1.0	1.5	0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	5.5		4.0	5.5	5.5	3.5	5.0	5.5	3.5	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min		None	Min	Min	None	Min	Min	None	Min	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		20.0			21.0	21.0		22.0	20.0		22.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	11.2	24.7		11.1	25.1	25.1	7.2	17.2	24.7	12.9	27.3	
Actuated g/C Ratio	0.13	0.29		0.13	0.30	0.30	0.09	0.20	0.29	0.15	0.32	
v/c Ratio	0.64	0.78		0.67	0.41	0.28	0.21	0.62	0.23	0.72	0.58	
Control Delay	50.8	33.4		52.6	26.0	5.7	43.0	35.1	6.1	53.3	27.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	50.8	33.4		52.6	26.0	5.7	43.0	35.1	6.1	53.3	27.7	
LOS	D	C		D	C	A	D	D	A	D	C	
Approach Delay		36.1			27.1			29.5			33.6	
Approach LOS		D			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 101
Actuated Cycle Length: 84.3
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 32.0 Intersection LOS: C
Intersection Capacity Utilization 65.4% ICU Level of Service C
Analysis Period (min) 15

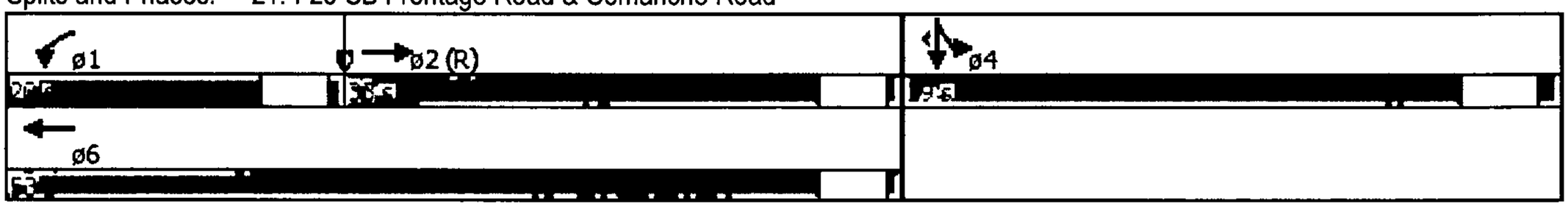
Splits and Phases: 18: Edith Blvd. & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		4.0		3.0	16.0					8.0	8.0	8.0
Minimum Split (s)		33.0		20.0	32.0					39.0	39.0	39.0
Total Split (s)		33.0		20.0	53.0					39.0	39.0	39.0
Total Split (%)		35.9%		21.7%	57.6%					42.4%	42.4%	42.4%
Maximum Green (s)		28.0		15.0	48.0					33.0	33.0	33.0
Yellow Time (s)		4.0		4.0	4.0					4.5	4.5	4.5
All-Red Time (s)		1.0		1.0	1.0					1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					6.0	6.0	6.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max		None	Max					None	None	None
Walk Time (s)		7.0			7.0					7.0	7.0	7.0
Flash Dont Walk (s)		21.0			15.0					26.0	26.0	26.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		31.7		14.7	51.4					29.6	29.6	29.6
Actuated g/C Ratio		0.34		0.16	0.56					0.32	0.32	0.32
v/c Ratio		0.75		0.77	0.52					0.55	0.73	0.26
Control Delay		31.2		47.7	14.5					29.2	31.5	10.3
Queue Delay		0.0		0.0	0.3					0.0	0.0	0.0
Total Delay		31.2		47.7	14.8					29.2	31.5	10.3
LOS		C		D	B					C	C	B
Approach Delay		31.2			24.4						28.6	
Approach LOS		C			C						C	

Intersection Summary
Area Type: Other
Cycle Length: 92
Actuated Cycle Length: 92
Offset: 20 (22%), Referenced to phase 2:EBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 27.5 Intersection LOS: C
Intersection Capacity Utilization 68.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 21: I-25 SB Frontage Road & Comanche Road

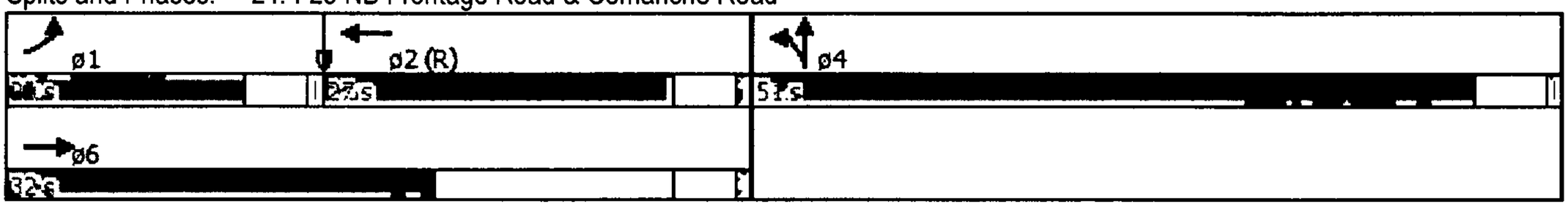


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6			2		4	4				
Switch Phase												
Minimum Initial (s)	3.0	16.0			16.0		8.0	8.0				
Minimum Split (s)	20.0	32.0			32.0		40.0	40.0				
Total Split (s)	20.0	32.0			27.0		51.0	51.0				
Total Split (%)	20.4%	32.7%			27.6%		52.0%	52.0%				
Maximum Green (s)	15.0	27.0			22.0		45.5	45.5				
Yellow Time (s)	4.0	4.0			4.0		4.5	4.5				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		5.5	5.5				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Recall Mode	None	None			C-Max		Max	Max				
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		18.0			13.0		25.0	25.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	11.8	42.0			25.2		45.5	45.5				
Actuated g/C Ratio	0.12	0.43			0.26		0.46	0.46				
v/c Ratio	0.56	0.41			0.83		0.77	0.73				
Control Delay	45.6	20.5			43.5		31.0	21.7				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	45.6	20.5			43.5		31.0	21.7				
LOS	D	C			D		C	C				
Approach Delay		27.3			43.5			24.1				
Approach LOS		C			D			C				

Intersection Summary

Area Type: Other
Cycle Length: 98
Actuated Cycle Length: 98
Offset: 20 (20%), Referenced to phase 2:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 28.7 Intersection LOS: C
Intersection Capacity Utilization 68.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 24: I-25 NB Frontage Road & Comanche Road

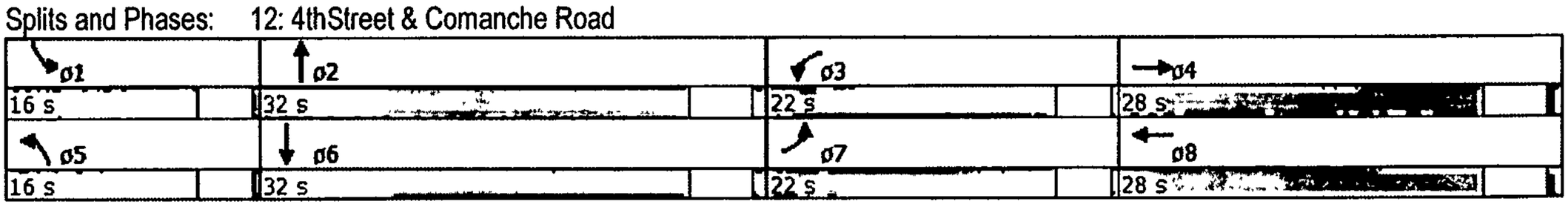


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	3.0	12.0		3.0	12.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	8.0	28.0		16.0	28.0		16.0	32.0		16.0	32.0	
Total Split (s)	22.0	28.0		22.0	28.0		16.0	32.0		16.0	32.0	
Total Split (%)	22.4%	28.6%		22.4%	28.6%		16.3%	32.7%		16.3%	32.7%	
Maximum Green (s)	18.0	23.0		18.0	23.0		12.0	27.0		12.0	27.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.5	1.0		0.5	1.0		0.5	1.0		0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	Max		None	Max	
Walk Time (s)		8.0			8.0			8.0			8.0	
Flash Dont Walk (s)		14.0			14.0			14.0			14.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	17.2	19.5		11.1	13.5		8.6	27.1		10.9	31.5	
Actuated g/C Ratio	0.20	0.22		0.13	0.16		0.10	0.31		0.13	0.36	
v/c Ratio	0.81	0.41		0.53	0.62		0.38	0.82		0.65	0.75	
Control Delay	53.4	26.2		44.3	21.5		43.4	35.4		51.7	29.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	53.4	26.2		44.3	21.5		43.4	35.4		51.7	29.7	
LOS	D	C		D	C		D	D		D	C	
Approach Delay		38.8			26.5			36.0			32.7	
Approach LOS		D			C			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 98
Actuated Cycle Length: 86.7
Natural Cycle: 95
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 33.8 Intersection LOS: C
Intersection Capacity Utilization 72.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 12: 4thStreet & Comanche Road

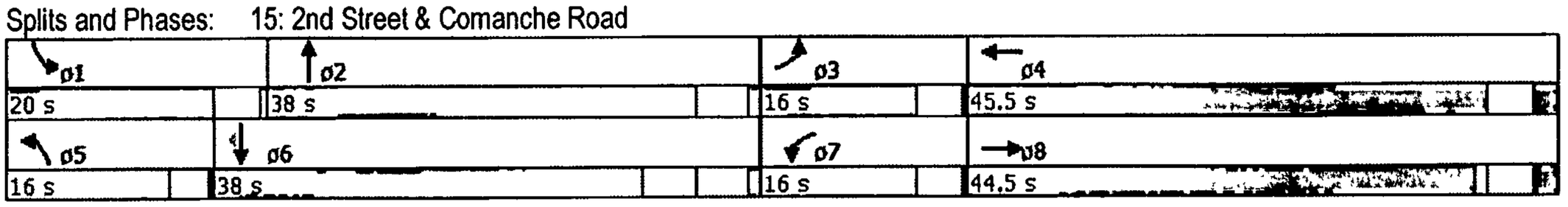


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases												6
Detector Phase	3	8		7	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	18.0		3.0	18.0	18.0
Minimum Split (s)	16.0	44.5		16.0	45.5		16.0	38.0		16.0	38.0	38.0
Total Split (s)	16.0	44.5		16.0	45.5		16.0	38.0		20.0	38.0	38.0
Total Split (%)	13.4%	37.2%		13.4%	38.1%		13.4%	31.8%		16.7%	31.8%	31.8%
Maximum Green (s)	12.0	39.0		12.0	40.0		12.5	33.0		16.0	33.0	33.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.5	4.0	4.0
All-Red Time (s)	0.5	2.0		0.5	2.0		0.5	1.0		0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.5		4.0	5.5		3.5	5.0		4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	Max		None	Max	Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		32.0			33.0			20.0			21.0	21.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	10.1	18.7		9.4	18.2		9.0	33.8		12.4	40.2	40.2
Actuated g/C Ratio	0.11	0.21		0.10	0.20		0.10	0.37		0.14	0.44	0.44
v/c Ratio	0.53	0.55		0.45	0.68		0.39	0.43		0.59	0.35	0.12
Control Delay	51.3	34.3		49.4	36.3		48.1	24.6		49.6	20.8	5.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	51.3	34.3		49.4	36.3		48.1	24.6		49.6	20.8	5.3
LOS	D	C		D	D		D	C		D	C	A
Approach Delay		37.8			38.2			27.2			24.4	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 119.5
Actuated Cycle Length: 90.5
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 31.0 Intersection LOS: C
Intersection Capacity Utilization 63.4% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 15: 2nd Street & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						6			2			
Detector Phase	5	2		1	6	6	3	8	2	7	4	
Switch Phase												
Minimum Initial (s)	3.0	16.0		3.0	16.0	16.0	3.0	8.0	16.0	3.0	8.0	
Minimum Split (s)	16.0	32.5		16.0	33.5	33.5	16.0	34.0	32.5	16.0	34.0	
Total Split (s)	16.0	31.0		18.0	33.0	33.0	18.0	34.0	31.0	18.0	34.0	
Total Split (%)	15.8%	30.7%		17.8%	32.7%	32.7%	17.8%	33.7%	30.7%	17.8%	33.7%	
Maximum Green (s)	12.5	25.5		14.0	27.5	27.5	14.5	29.0	25.5	14.5	29.0	
Yellow Time (s)	3.0	4.0		3.5	4.0	4.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.5	1.5		0.5	1.5	1.5	0.5	1.0	1.5	0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	5.5		4.0	5.5	5.5	3.5	5.0	5.5	3.5	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min		None	Min	Min	None	Min	Min	None	Min	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		20.0			21.0	21.0		22.0	20.0		22.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	9.6	21.1		11.5	26.1	26.1	9.1	17.2	21.1	11.2	21.8	
Actuated g/C Ratio	0.12	0.27		0.14	0.33	0.33	0.11	0.22	0.27	0.14	0.27	
v/c Ratio	0.45	0.68		0.59	0.44	0.29	0.38	0.64	0.29	0.54	0.56	
Control Delay	43.3	31.0		45.1	25.1	5.5	41.9	33.5	6.5	43.3	28.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.3	31.0		45.1	25.1	5.5	41.9	33.5	6.5	43.3	28.6	
LOS	D	C		D	C	A	D	C	A	D	C	
Approach Delay		32.6			24.4			28.7			31.5	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 101

Actuated Cycle Length: 79.6

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

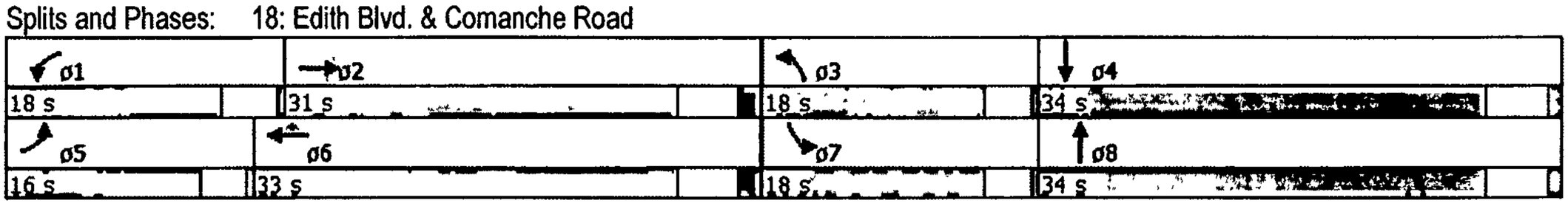
Maximum v/c Ratio: 0.68

Intersection Signal Delay: 29.1 Intersection LOS: C

Intersection Capacity Utilization 59.2% ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 18: Edith Blvd. & Comanche Road

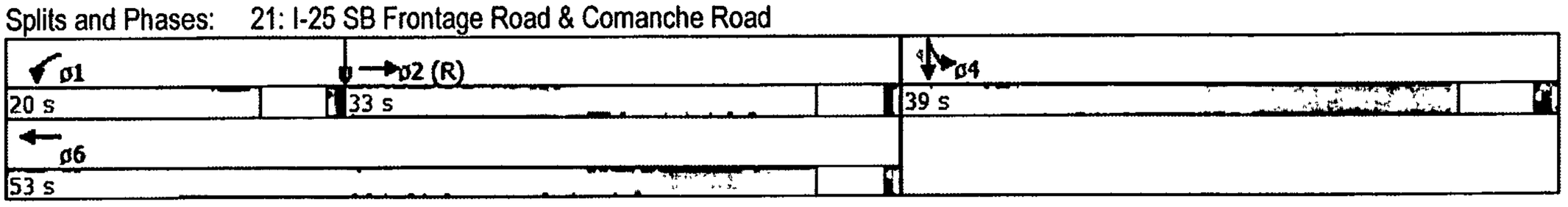


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		2		1	6					4	4	
Permitted Phases												4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		4.0		3.0	16.0					8.0	8.0	8.0
Minimum Split (s)		33.0		20.0	32.0					39.0	39.0	39.0
Total Split (s)		33.0		20.0	53.0					39.0	39.0	39.0
Total Split (%)		35.9%		21.7%	57.6%					42.4%	42.4%	42.4%
Maximum Green (s)		28.0		15.0	48.0					33.0	33.0	33.0
Yellow Time (s)		4.0		4.0	4.0					4.5	4.5	4.5
All-Red Time (s)		1.0		1.0	1.0					1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					6.0	6.0	6.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max		None	Max					None	None	None
Walk Time (s)		7.0			7.0					7.0	7.0	7.0
Flash Dont Walk (s)		21.0			15.0					26.0	26.0	26.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		33.5		13.1	51.5					29.5	29.5	29.5
Actuated g/C Ratio		0.36		0.14	0.56					0.32	0.32	0.32
v/c Ratio		0.56		0.64	0.39					0.62	0.71	0.26
Control Delay		24.0		48.2	15.1					31.4	31.1	5.0
Queue Delay		0.0		0.0	0.0					0.0	0.0	0.0
Total Delay		24.0		48.2	15.1					31.4	31.1	5.0
LOS		C		D	B					C	C	A
Approach Delay		24.0			24.5						28.3	
Approach LOS		C			C						C	

Intersection Summary

Area Type: Other
Cycle Length: 92
Actuated Cycle Length: 92
Offset: 20 (22%), Referenced to phase 2:EBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 25.9 Intersection LOS: C
Intersection Capacity Utilization 61.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 21: I-25 SB Frontage Road & Comanche Road

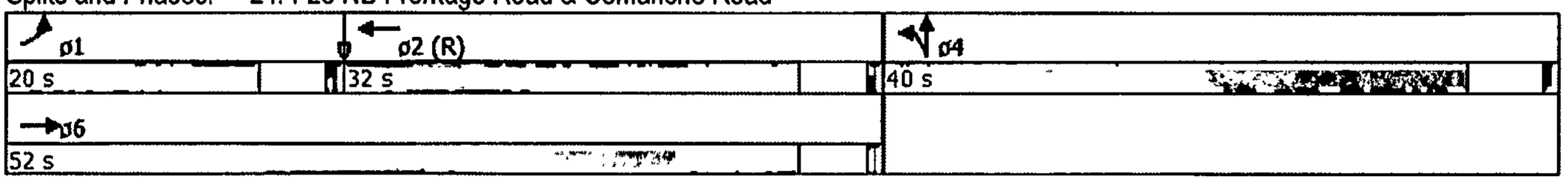


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	1	6			2		4	4				
Permitted Phases												
Detector Phase	1	6			2		4	4				
Switch Phase												
Minimum Initial (s)	3.0	16.0			16.0		8.0	8.0				
Minimum Split (s)	20.0	32.0			32.0		40.0	40.0				
Total Split (s)	20.0	52.0			32.0		40.0	40.0				
Total Split (%)	21.7%	56.5%			34.8%		43.5%	43.5%				
Maximum Green (s)	15.0	47.0			27.0		34.5	34.5				
Yellow Time (s)	4.0	4.0			4.0		4.5	4.5				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		5.5	5.5				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Recall Mode	None	None			C-Max		Max	Max				
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		18.0			13.0		25.0	25.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	10.7	47.0			31.3		34.5	34.5				
Actuated g/C Ratio	0.12	0.51			0.34		0.38	0.38				
v/c Ratio	0.51	0.33			0.53		0.82	0.79				
Control Delay	30.4	20.9			25.1		39.7	28.0				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	30.4	20.9			25.1		39.7	28.0				
LOS	C	C			C		D	C				
Approach Delay		23.3			25.1			30.9				
Approach LOS		C			C			C				

Intersection Summary

Area Type: Other
Cycle Length: 92
Actuated Cycle Length: 92
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 28.0 Intersection LOS: C
Intersection Capacity Utilization 61.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 24: I-25 NB Frontage Road & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	3.0	12.0		3.0	12.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	8.0	28.0		16.0	28.0		16.0	32.0		16.0	32.0	
Total Split (s)	16.0	28.0		16.0	28.0		16.0	38.0		16.0	38.0	
Total Split (%)	16.3%	28.6%		16.3%	28.6%		16.3%	38.8%		16.3%	38.8%	
Maximum Green (s)	12.0	23.0		12.0	23.0		12.0	33.0		12.0	33.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.5	1.0		0.5	1.0		0.5	1.0		0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	Max		None	Max	
Walk Time (s)		8.0			8.0			8.0			8.0	
Flash Dont Walk (s)		14.0			14.0			14.0			14.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	12.0	23.6		11.4	23.0		10.3	33.0		11.3	36.3	
Actuated g/C Ratio	0.12	0.24		0.12	0.24		0.11	0.34		0.12	0.37	
v/c Ratio	1.51	0.49		0.76	1.18		0.58	1.09		0.74	0.84	
Control Delay	284.9	31.8		65.5	122.9		53.8	84.8		63.3	35.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	284.9	31.8		65.5	122.9		53.8	84.8		63.3	35.4	
LOS	F	C		E	F		D	F		E	D	
Approach Delay		143.4			115.5			82.4			38.8	
Approach LOS		F			F			F			D	

Intersection Summary

Area Type: Other

Cycle Length: 98

Actuated Cycle Length: 97.3

Natural Cycle: 135

Control Type: Actuated-Uncoordinated

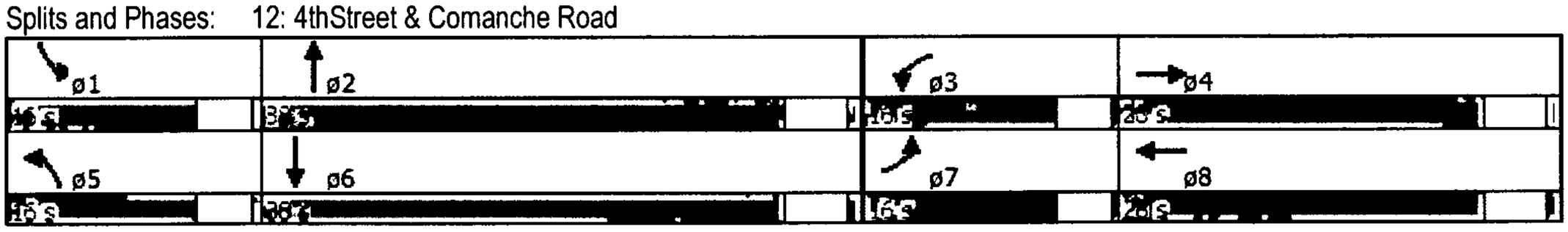
Maximum v/c Ratio: 1.51

Intersection Signal Delay: 89.3 Intersection LOS: F

Intersection Capacity Utilization 101.5% ICU Level of Service G

Analysis Period (min) 15

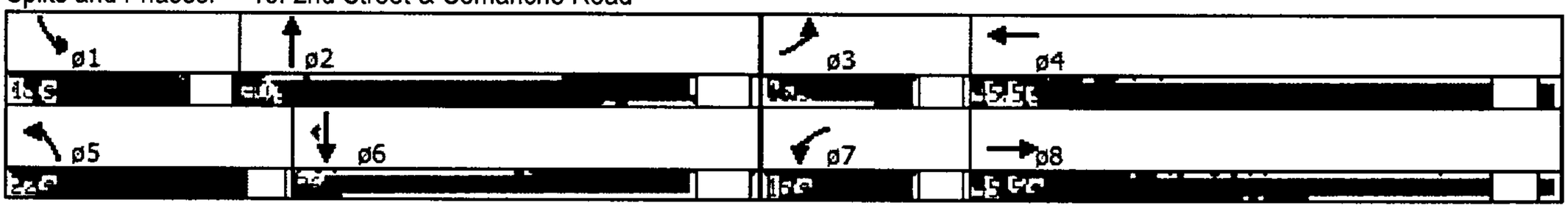
Splits and Phases: 12: 4thStreet & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases												6
Detector Phase	3	8		7	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	18.0		3.0	18.0	18.0
Minimum Split (s)	16.0	44.5		16.0	45.5		16.0	38.0		16.0	38.0	38.0
Total Split (s)	16.0	45.5		16.0	45.5		22.0	40.0		18.0	36.0	36.0
Total Split (%)	13.4%	38.1%		13.4%	38.1%		18.4%	33.5%		15.1%	30.1%	30.1%
Maximum Green (s)	12.0	40.0		12.0	40.0		18.5	35.0		14.0	31.0	31.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.5	4.0	4.0
All-Red Time (s)	0.5	2.0		0.5	2.0		0.5	1.0		0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.5		4.0	5.5		3.5	5.0		4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	Max		None	Max	Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		32.0			33.0			20.0			21.0	21.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	10.2	32.4		9.9	32.2		15.1	35.6		13.8	34.8	34.8
Actuated g/C Ratio	0.09	0.30		0.09	0.30		0.14	0.33		0.13	0.32	0.32
v/c Ratio	0.57	0.36		0.52	0.79		0.71	0.96		0.81	0.58	0.21
Control Delay	63.3	29.4		61.4	39.3		62.0	55.5		75.2	36.0	6.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	63.3	29.4		61.4	39.3		62.0	55.5		75.2	36.0	6.5
LOS	E	C		E	D		E	E		E	D	A
Approach Delay		36.3			41.3			56.4			39.7	
Approach LOS		D			D			E			D	

Intersection Summary
Area Type: Other
Cycle Length: 119.5
Actuated Cycle Length: 107.8
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 45.5 Intersection LOS: D
Intersection Capacity Utilization 80.0% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 15: 2nd Street & Comanche Road

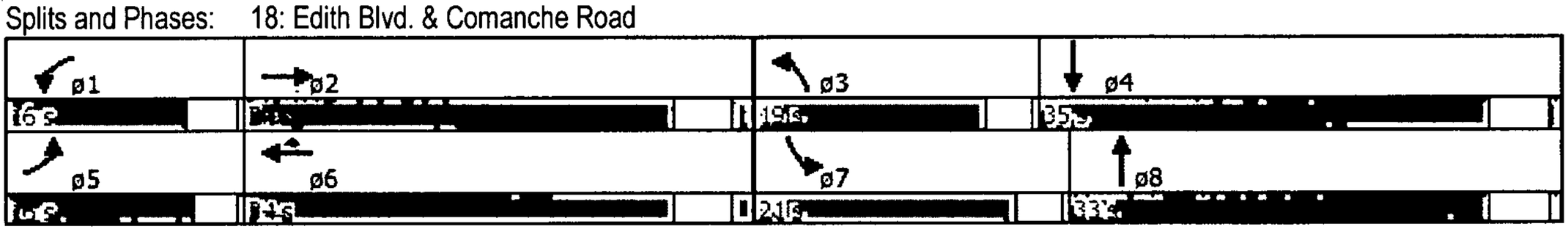


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						6			2			
Detector Phase	5	2		1	6	6	3	8	2	7	4	
Switch Phase												
Minimum Initial (s)	3.0	16.0		3.0	16.0	16.0	3.0	8.0	16.0	3.0	8.0	
Minimum Split (s)	16.0	32.5		16.0	33.5	33.5	16.0	34.0	32.5	16.0	34.0	
Total Split (s)	16.0	34.0		16.0	34.0	34.0	19.0	33.0	34.0	21.0	35.0	
Total Split (%)	15.4%	32.7%		15.4%	32.7%	32.7%	18.3%	31.7%	32.7%	20.2%	33.7%	
Maximum Green (s)	12.5	28.5		12.0	28.5	28.5	15.5	28.0	28.5	17.5	30.0	
Yellow Time (s)	3.0	4.0		3.5	4.0	4.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.5	1.5		0.5	1.5	1.5	0.5	1.0	1.5	0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	5.5		4.0	5.5	5.5	3.5	5.0	5.5	3.5	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min		None	Min	Min	None	Min	Min	None	Min	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		20.0			21.0	21.0		22.0	20.0		22.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	10.9	27.1		10.6	27.3	27.3	14.6	26.9	27.1	17.5	29.8	
Actuated g/C Ratio	0.11	0.27		0.11	0.27	0.27	0.15	0.27	0.27	0.17	0.30	
v/c Ratio	0.63	0.86		0.63	0.85	0.37	0.81	0.89	0.33	0.92	0.77	
Control Delay	58.6	45.4		59.4	44.5	6.1	67.1	49.0	6.2	76.5	37.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.6	45.4		59.4	44.5	6.1	67.1	49.0	6.2	76.5	37.7	
LOS	E	D		E	D	A	E	D	A	E	D	
Approach Delay		47.1			38.8			45.7			47.8	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 104
Actuated Cycle Length: 100.2
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 44.7 Intersection LOS: D
Intersection Capacity Utilization 78.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 18: Edith Blvd. & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		2		1	6					4	4	
Permitted Phases												4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		4.0		3.0	16.0					8.0	8.0	8.0
Minimum Split (s)		33.0		20.0	32.0					39.0	39.0	39.0
Total Split (s)		33.0		20.0	53.0					39.0	39.0	39.0
Total Split (%)		35.9%		21.7%	57.6%					42.4%	42.4%	42.4%
Maximum Green (s)		28.0		15.0	48.0					33.0	33.0	33.0
Yellow Time (s)		4.0		4.0	4.0					4.5	4.5	4.5
All-Red Time (s)		1.0		1.0	1.0					1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					6.0	6.0	6.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max		None	Max					None	None	None
Walk Time (s)		7.0			7.0					7.0	7.0	7.0
Flash Dont Walk (s)		21.0			15.0					26.0	26.0	26.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		31.4		14.0	50.4					30.6	30.6	30.6
Actuated g/C Ratio		0.34		0.15	0.55					0.33	0.33	0.33
v/c Ratio		0.91		0.73	0.50					0.65	0.74	0.27
Control Delay		42.3		49.8	11.6					31.7	31.4	9.5
Queue Delay		0.0		0.0	0.0					0.0	0.0	0.0
Total Delay		42.3		49.8	11.6					31.7	31.4	9.5
LOS		D		D	B					C	C	A
Approach Delay		42.3			22.3						29.2	
Approach LOS		D			C						C	

Intersection Summary

Area Type: Other

Cycle Length: 92

Actuated Cycle Length: 92

Offset: 20 (22%), Referenced to phase 2:EBT, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

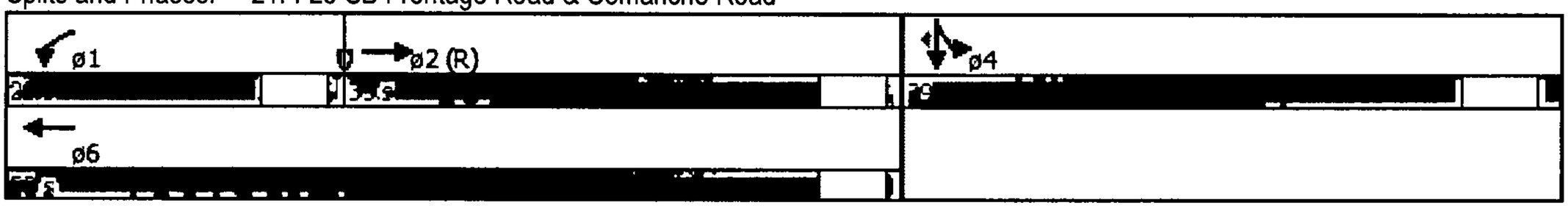
Maximum v/c Ratio: 0.91

Intersection Signal Delay: 30.4 Intersection LOS: C

Intersection Capacity Utilization 79.3% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 21: I-25 SB Frontage Road & Comanche Road

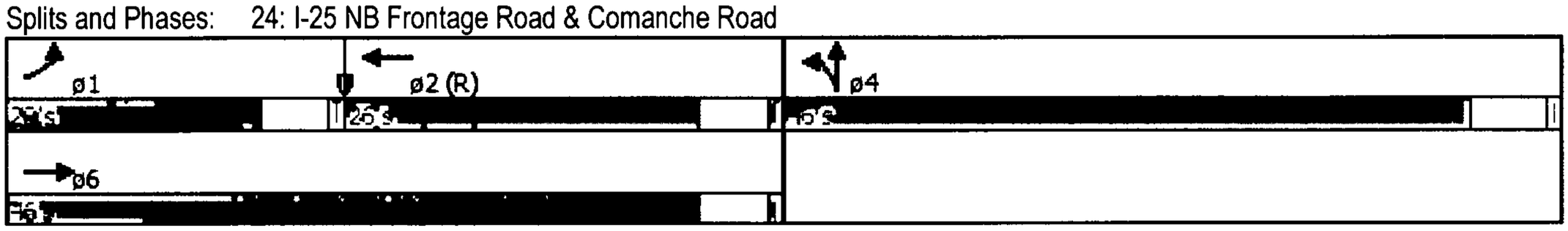


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	1	6			2		4	4				
Permitted Phases												
Detector Phase	1	6			2		4	4				
Switch Phase												
Minimum Initial (s)	3.0	16.0			16.0		8.0	8.0				
Minimum Split (s)	20.0	32.0			32.0		40.0	40.0				
Total Split (s)	20.0	46.0			26.0		46.0	46.0				
Total Split (%)	21.7%	50.0%			28.3%		50.0%	50.0%				
Maximum Green (s)	15.0	41.0			21.0		40.5	40.5				
Yellow Time (s)	4.0	4.0			4.0		4.5	4.5				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		5.5	5.5				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Recall Mode	None	None			C-Max		Max	Max				
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		18.0			13.0		25.0	25.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	11.3	41.0			24.7		40.5	40.5				
Actuated g/C Ratio	0.12	0.45			0.27		0.44	0.44				
v/c Ratio	0.53	0.38			0.98		0.98	0.96				
Control Delay	28.3	24.4			59.8		58.4	37.3				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	28.3	24.4			59.8		58.4	37.3				
LOS	C	C			E		E	D				
Approach Delay		25.5			59.8			42.5				
Approach LOS		C			E			D				

Intersection Summary

Area Type: Other
Cycle Length: 92
Actuated Cycle Length: 92
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 42.9 Intersection LOS: D
Intersection Capacity Utilization 79.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 24: I-25 NB Frontage Road & Comanche Road

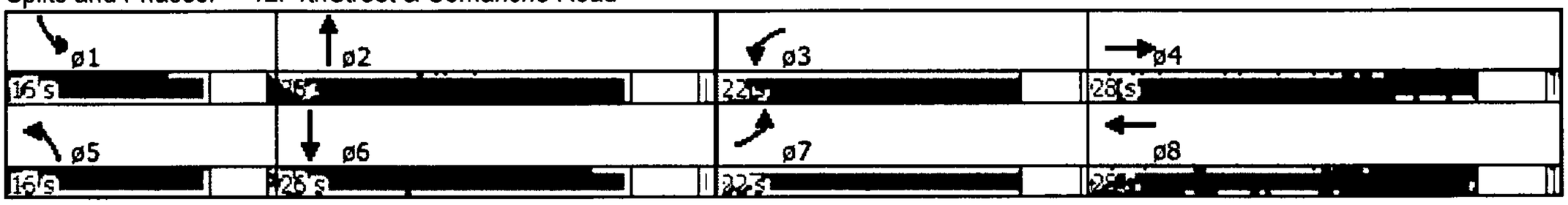


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	3.0	12.0		3.0	12.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	8.0	28.0		16.0	28.0		16.0	32.0		16.0	32.0	
Total Split (s)	22.0	28.0		22.0	28.0		16.0	26.0		16.0	26.0	
Total Split (%)	23.9%	30.4%		23.9%	30.4%		17.4%	28.3%		17.4%	28.3%	
Maximum Green (s)	18.0	23.0		18.0	23.0		12.0	21.0		12.0	21.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.5	1.0		0.5	1.0		0.5	1.0		0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	Max		None	Max	
Walk Time (s)		8.0			8.0			8.0			8.0	
Flash Dont Walk (s)		14.0			14.0			14.0			14.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	17.1	23.0		9.9	13.6		6.6	22.1		11.7	33.3	
Actuated g/C Ratio	0.21	0.28		0.12	0.16		0.08	0.27		0.14	0.40	
v/c Ratio	0.81	0.54		0.46	0.54		0.16	0.58		0.78	0.70	
Control Delay	50.5	27.7		41.2	24.2		39.0	29.1		58.2	25.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	50.5	27.7		41.2	24.2		39.0	29.1		58.2	25.9	
LOS	D	C		D	C		D	C		E	C	
Approach Delay		35.9			27.9			29.5			31.3	
Approach LOS		D			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 92
Actuated Cycle Length: 82.5
Natural Cycle: 95
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 31.7 Intersection LOS: C
Intersection Capacity Utilization 68.9% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 12: 4thStreet & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases												6
Detector Phase	3	8		7	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	18.0		3.0	18.0	18.0
Minimum Split (s)	16.0	44.5		16.0	45.5		16.0	38.0		16.0	38.0	38.0
Total Split (s)	16.0	44.5		16.0	45.5		16.0	34.0		20.0	38.0	38.0
Total Split (%)	13.9%	38.5%		13.9%	39.4%		13.9%	29.4%		17.3%	32.9%	32.9%
Maximum Green (s)	12.0	39.0		12.0	40.0		12.5	29.0		16.0	33.0	33.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.5	4.0	4.0
All-Red Time (s)	0.5	2.0		0.5	2.0		0.5	1.0		0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.5		4.0	5.5		3.5	5.0		4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	Max		None	Max	Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		32.0			33.0			20.0			21.0	21.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	10.8	23.2		8.9	18.9		8.3	29.3		15.6	39.2	39.2
Actuated g/C Ratio	0.12	0.25		0.10	0.20		0.09	0.31		0.17	0.42	0.42
v/c Ratio	0.62	0.68		0.41	0.50		0.35	0.64		0.77	0.70	0.09
Control Delay	55.1	35.6		49.3	29.3		48.3	31.9		57.3	28.5	2.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	55.1	35.6		49.3	29.3		48.3	31.9		57.3	28.5	2.5
LOS	E	D		D	C		D	C		E	C	A
Approach Delay		39.0			32.6			33.0			32.2	
Approach LOS		D			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 115.5

Actuated Cycle Length: 93.3

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

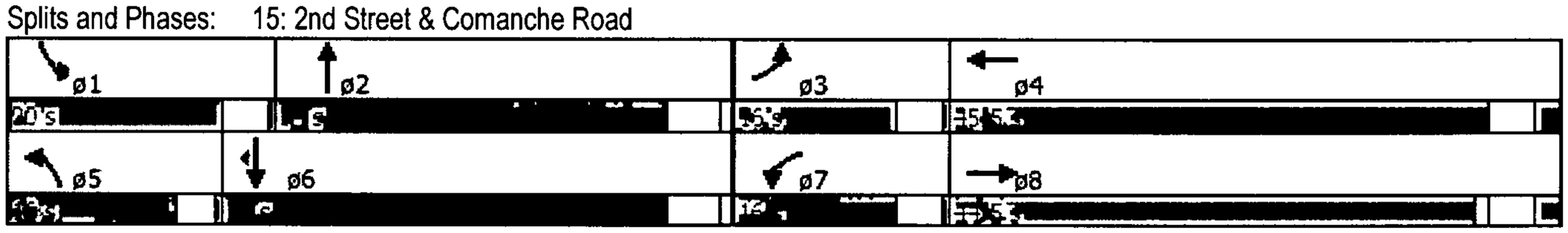
Maximum v/c Ratio: 0.77

Intersection Signal Delay: 34.0 Intersection LOS: C

Intersection Capacity Utilization 68.5% ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 15: 2nd Street & Comanche Road

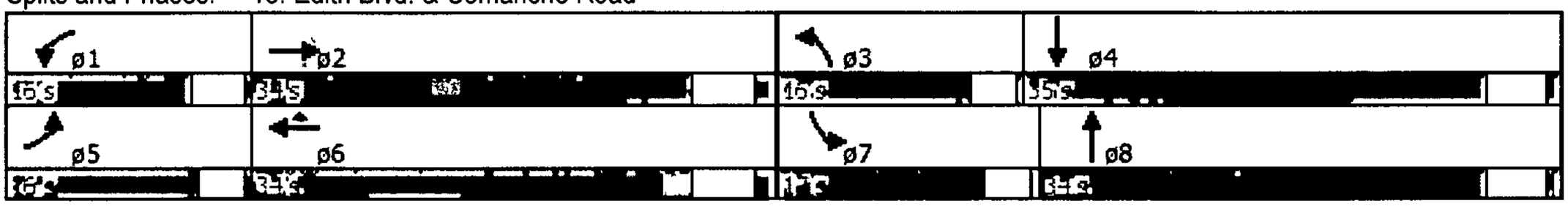


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			2			
Detector Phase	5	2		1	6	6	3	8	2	7	4	
Switch Phase												
Minimum Initial (s)	3.0	16.0		3.0	16.0	16.0	3.0	8.0	16.0	3.0	8.0	
Minimum Split (s)	16.0	32.5		16.0	33.5	33.5	16.0	34.0	32.5	16.0	34.0	
Total Split (s)	16.0	34.0		16.0	34.0	34.0	16.0	34.0	34.0	17.0	35.0	
Total Split (%)	15.8%	33.7%		15.8%	33.7%	33.7%	15.8%	33.7%	33.7%	16.8%	34.7%	
Maximum Green (s)	12.5	28.5		12.0	28.5	28.5	12.5	29.0	28.5	13.5	30.0	
Yellow Time (s)	3.0	4.0		3.5	4.0	4.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.5	1.5		0.5	1.5	1.5	0.5	1.0	1.5	0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	5.5		4.0	5.5	5.5	3.5	5.0	5.5	3.5	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min		None	Min	Min	None	Min	Min	None	Min	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		20.0			21.0	21.0		22.0	20.0		22.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	11.4	25.5		11.4	25.9	25.9	7.3	17.9	25.5	13.0	28.0	
Actuated g/C Ratio	0.13	0.30		0.13	0.30	0.30	0.08	0.21	0.30	0.15	0.33	
v/c Ratio	0.67	0.80		0.69	0.42	0.29	0.22	0.63	0.23	0.75	0.60	
Control Delay	53.0	34.8		55.0	26.4	5.7	43.6	35.7	6.0	56.5	28.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.0	34.8		55.0	26.4	5.7	43.6	35.7	6.0	56.5	28.4	
LOS	D	C		E	C	A	D	D	A	E	C	
Approach Delay		37.7			27.8			30.0			34.8	
Approach LOS		D			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 101
Actuated Cycle Length: 86.1
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 33.1 Intersection LOS: C
Intersection Capacity Utilization 67.4% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 18: Edith Blvd. & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases												4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		4.0		3.0	16.0					8.0	8.0	8.0
Minimum Split (s)		33.0		20.0	32.0					39.0	39.0	39.0
Total Split (s)		33.0		20.0	53.0					39.0	39.0	39.0
Total Split (%)		35.9%		21.7%	57.6%					42.4%	42.4%	42.4%
Maximum Green (s)		28.0		15.0	48.0					33.0	33.0	33.0
Yellow Time (s)		4.0		4.0	4.0					4.5	4.5	4.5
All-Red Time (s)		1.0		1.0	1.0					1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					6.0	6.0	6.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max		None	Max					None	None	None
Walk Time (s)		7.0			7.0					7.0	7.0	7.0
Flash Dont Walk (s)		21.0			15.0					26.0	26.0	26.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		31.0		14.6	50.7					30.3	30.3	30.3
Actuated g/C Ratio		0.34		0.16	0.55					0.33	0.33	0.33
v/c Ratio		0.80		0.81	0.54					0.56	0.74	0.27
Control Delay		33.8		50.1	15.2					29.1	31.5	10.9
Queue Delay		0.0		0.0	0.3					0.0	0.0	0.0
Total Delay		33.8		50.1	15.5					29.1	31.5	10.9
LOS		C		D	B					C	C	B
Approach Delay		33.8			25.6						28.6	
Approach LOS		C			C						C	

Intersection Summary

Area Type: Other

Cycle Length: 92

Actuated Cycle Length: 92

Offset: 20 (22%), Referenced to phase 2:EBT, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

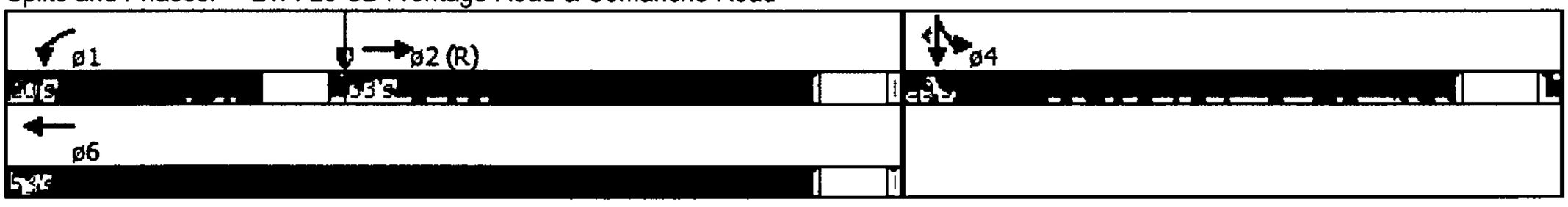
Maximum v/c Ratio: 0.81

Intersection Signal Delay: 28.7 Intersection LOS: C

Intersection Capacity Utilization 70.8% ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 21: I-25 SB Frontage Road & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases												
Detector Phase	1	6			2		4	4				
Switch Phase												
Minimum Initial (s)	3.0	16.0			16.0		8.0	8.0				
Minimum Split (s)	20.0	32.0			32.0		40.0	40.0				
Total Split (s)	20.0	32.0			27.0		51.0	51.0				
Total Split (%)	20.4%	32.7%			27.6%		52.0%	52.0%				
Maximum Green (s)	15.0	27.0			22.0		45.5	45.5				
Yellow Time (s)	4.0	4.0			4.0		4.5	4.5				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		5.5	5.5				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Recall Mode	None	None			C-Max		Max	Max				
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		18.0			13.0		25.0	25.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	12.0	42.0			25.0		45.5	45.5				
Actuated g/C Ratio	0.12	0.43			0.26		0.46	0.46				
v/c Ratio	0.57	0.43			0.87		0.79	0.76				
Control Delay	45.8	20.7			46.9		32.2	22.8				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	45.8	20.7			46.9		32.2	22.8				
LOS	D	C			D		C	C				
Approach Delay		27.5			46.9			25.1				
Approach LOS		C			D			C				

Intersection Summary

Area Type: Other

Cycle Length: 98

Actuated Cycle Length: 98

Offset: 20 (20%), Referenced to phase 2:WBT, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

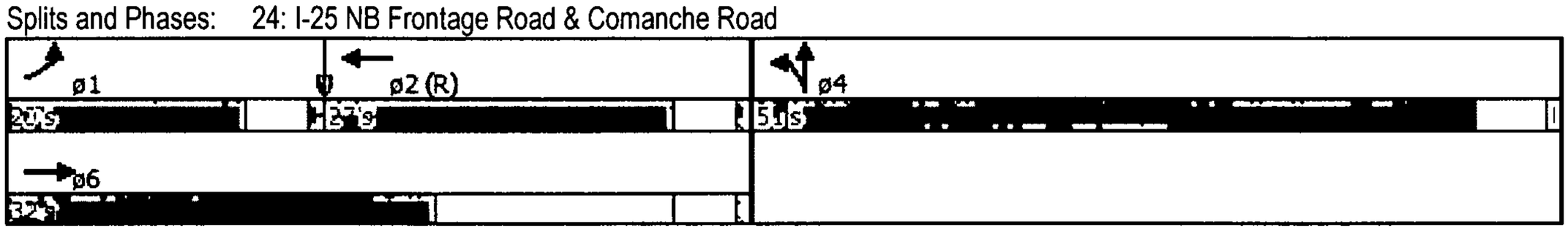
Maximum v/c Ratio: 0.87

Intersection Signal Delay: 30.0 Intersection LOS: C

Intersection Capacity Utilization 70.8% ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 24: I-25 NB Frontage Road & Comanche Road



Lanes, Volumes, Timings
12: 4thStreet & Comanche Road

3/3/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	3.0	12.0		3.0	12.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	8.0	28.0		16.0	28.0		16.0	32.0		16.0	32.0	
Total Split (s)	22.0	28.0		22.0	28.0		16.0	32.0		16.0	32.0	
Total Split (%)	22.4%	28.6%		22.4%	28.6%		16.3%	32.7%		16.3%	32.7%	
Maximum Green (s)	18.0	23.0		18.0	23.0		12.0	27.0		12.0	27.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.5	1.0		0.5	1.0		0.5	1.0		0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	Max		None	Max	
Walk Time (s)		8.0			8.0			8.0			8.0	
Flash Dont Walk (s)		14.0			14.0			14.0			14.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	17.5	19.7		11.4	13.6		8.8	27.1		11.1	31.4	
Actuated g/C Ratio	0.20	0.23		0.13	0.16		0.10	0.31		0.13	0.36	
v/c Ratio	0.83	0.43		0.54	0.64		0.40	0.86		0.67	0.78	
Control Delay	55.7	26.7		44.5	21.8		44.0	38.1		53.0	31.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	55.7	26.7		44.5	21.8		44.0	38.1		53.0	31.4	
LOS	E	C		D	C		D	D		D	C	
Approach Delay		40.1			26.7			38.5			34.3	
Approach LOS		D			C			D			C	

Intersection Summary

Area Type: Other

Cycle Length: 98

Actuated Cycle Length: 87.3

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

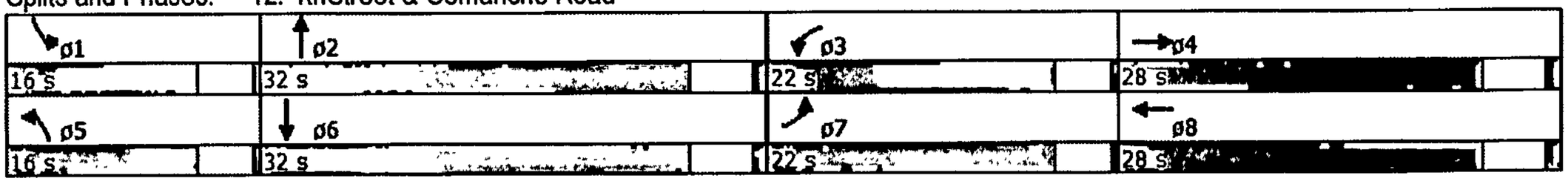
Maximum v/c Ratio: 0.86

Intersection Signal Delay: 35.4 Intersection LOS: D

Intersection Capacity Utilization 74.5% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 12: 4thStreet & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases												6
Detector Phase	3	8		7	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	18.0		3.0	18.0	18.0
Minimum Split (s)	16.0	44.5		16.0	45.5		16.0	38.0		16.0	38.0	38.0
Total Split (s)	16.0	44.5		16.0	45.5		16.0	38.0		20.0	38.0	38.0
Total Split (%)	13.4%	37.2%		13.4%	38.1%		13.4%	31.8%		16.7%	31.8%	31.8%
Maximum Green (s)	12.0	39.0		12.0	40.0		12.5	33.0		16.0	33.0	33.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.5	4.0	4.0
All-Red Time (s)	0.5	2.0		0.5	2.0		0.5	1.0		0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.5		4.0	5.5		3.5	5.0		4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	Max		None	Max	Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		32.0			33.0			20.0			21.0	21.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	10.3	22.0		9.5	18.8		9.1	33.4		12.7	39.6	39.6
Actuated g/C Ratio	0.11	0.23		0.10	0.20		0.10	0.36		0.14	0.42	0.42
v/c Ratio	0.56	0.51		0.47	0.71		0.42	0.47		0.63	0.38	0.13
Control Delay	53.4	33.2		50.9	37.9		49.5	26.2		51.8	21.9	5.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	53.4	33.2		50.9	37.9		49.5	26.2		51.8	21.9	5.4
LOS	D	C		D	D		D	C		D	C	A
Approach Delay		37.4			39.8			28.7			25.5	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 119.5

Actuated Cycle Length: 93.8

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

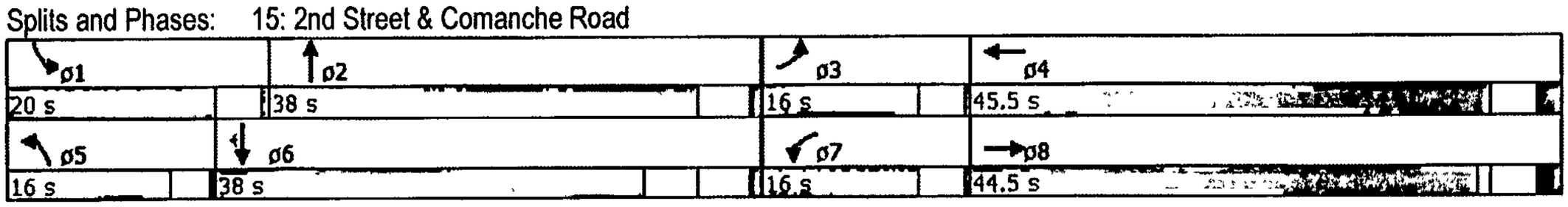
Maximum v/c Ratio: 0.71

Intersection Signal Delay: 32.0 Intersection LOS: C

Intersection Capacity Utilization 64.4% ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 15: 2nd Street & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			2			
Detector Phase	5	2		1	6	6	3	8	2	7	4	
Switch Phase												
Minimum Initial (s)	3.0	16.0		3.0	16.0	16.0	3.0	8.0	16.0	3.0	8.0	
Minimum Split (s)	16.0	32.5		16.0	33.5	33.5	16.0	34.0	32.5	16.0	34.0	
Total Split (s)	16.0	31.0		18.0	33.0	33.0	18.0	34.0	31.0	18.0	34.0	
Total Split (%)	15.8%	30.7%		17.8%	32.7%	32.7%	17.8%	33.7%	30.7%	17.8%	33.7%	
Maximum Green (s)	12.5	25.5		14.0	27.5	27.5	14.5	29.0	25.5	14.5	29.0	
Yellow Time (s)	3.0	4.0		3.5	4.0	4.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.5	1.5		0.5	1.5	1.5	0.5	1.0	1.5	0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	5.5		4.0	5.5	5.5	3.5	5.0	5.5	3.5	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min		None	Min	Min	None	Min	Min	None	Min	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		20.0			21.0	21.0		22.0	20.0		22.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	9.8	21.7		11.8	26.9	26.9	9.3	18.0	21.7	11.5	22.7	
Actuated g/C Ratio	0.12	0.27		0.14	0.33	0.33	0.11	0.22	0.27	0.14	0.28	
v/c Ratio	0.48	0.70		0.61	0.46	0.30	0.40	0.65	0.30	0.56	0.57	
Control Delay	44.8	32.3		46.7	25.8	5.5	43.0	34.1	6.5	44.7	29.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	44.8	32.3		46.7	25.8	5.5	43.0	34.1	6.5	44.7	29.1	
LOS	D	C		D	C	A	D	C	A	D	C	
Approach Delay		33.9			25.1			29.2			32.2	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 101

Actuated Cycle Length: 81.5

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

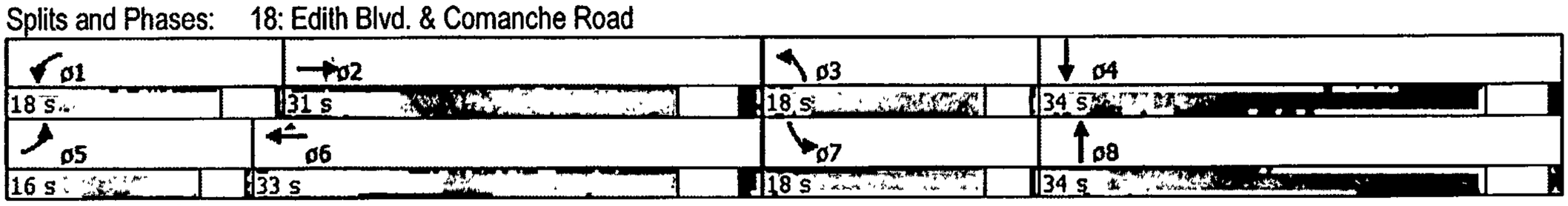
Maximum v/c Ratio: 0.70

Intersection Signal Delay: 29.9 Intersection LOS: C

Intersection Capacity Utilization 60.9% ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 18: Edith Blvd. & Comanche Road

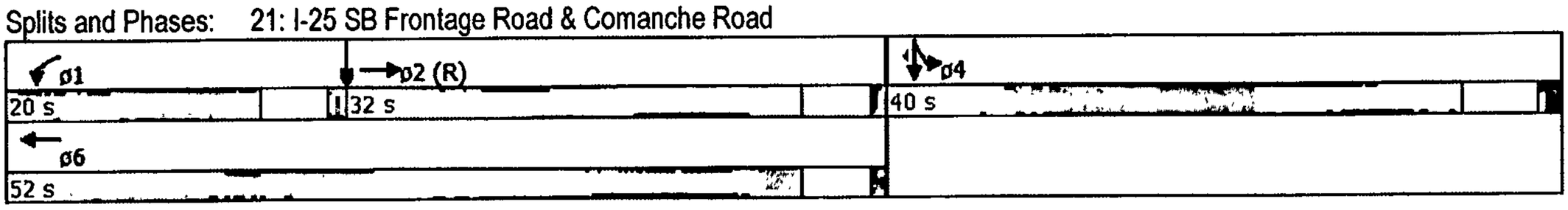


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type		NA		Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases												4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		4.0		3.0	16.0					8.0	8.0	8.0
Minimum Split (s)		33.0		20.0	32.0					39.0	39.0	39.0
Total Split (s)		32.0		20.0	52.0					40.0	40.0	40.0
Total Split (%)		34.8%		21.7%	56.5%					43.5%	43.5%	43.5%
Maximum Green (s)		27.0		15.0	47.0					34.0	34.0	34.0
Yellow Time (s)		4.0		4.0	4.0					4.5	4.5	4.5
All-Red Time (s)		1.0		1.0	1.0					1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					6.0	6.0	6.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max		None	Max					None	None	None
Walk Time (s)		7.0			7.0					7.0	7.0	7.0
Flash Dont Walk (s)		21.0			15.0					26.0	26.0	26.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		32.1		13.3	50.4					30.6	30.6	30.6
Actuated g/C Ratio		0.35		0.14	0.55					0.33	0.33	0.33
v/c Ratio		0.61		0.66	0.42					0.62	0.71	0.26
Control Delay		26.1		48.3	16.3					30.6	30.3	5.0
Queue Delay		0.0		0.0	0.0					0.0	0.0	0.0
Total Delay		26.1		48.3	16.3					30.6	30.3	5.0
LOS		C		D	B					C	C	A
Approach Delay		26.1			25.4						27.5	
Approach LOS		C			C						C	

Intersection Summary

Area Type: Other
Cycle Length: 92
Actuated Cycle Length: 92
Offset: 20 (22%), Referenced to phase 2:EBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 26.5 Intersection LOS: C
Intersection Capacity Utilization 62.9% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 21: I-25 SB Frontage Road & Comanche Road

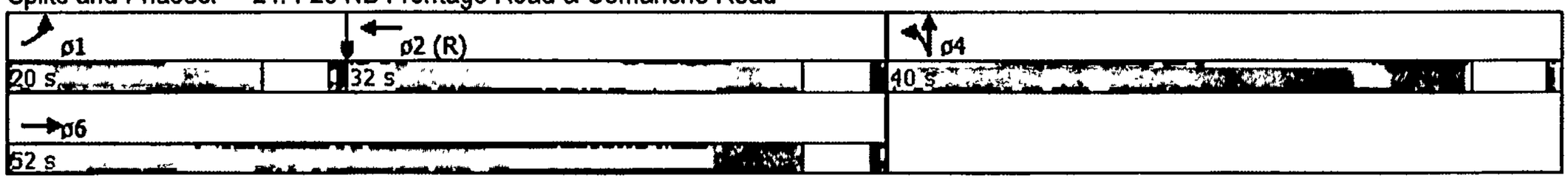


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA			NA		Split	NA				
Protected Phases	1	6			2		4	4				
Permitted Phases												
Detector Phase	1	6			2		4	4				
Switch Phase												
Minimum Initial (s)	3.0	16.0			16.0		8.0	8.0				
Minimum Split (s)	20.0	32.0			32.0		40.0	40.0				
Total Split (s)	20.0	52.0			32.0		40.0	40.0				
Total Split (%)	21.7%	56.5%			34.8%		43.5%	43.5%				
Maximum Green (s)	15.0	47.0			27.0		34.5	34.5				
Yellow Time (s)	4.0	4.0			4.0		4.5	4.5				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		5.5	5.5				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Recall Mode	None	None			C-Max		Max	Max				
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		18.0			13.0		25.0	25.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	10.9	47.0			31.1		34.5	34.5				
Actuated g/C Ratio	0.12	0.51			0.34		0.38	0.38				
v/c Ratio	0.51	0.34			0.55		0.85	0.82				
Control Delay	30.2	21.7			25.7		42.8	29.2				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	30.2	21.7			25.7		42.8	29.2				
LOS	C	C			C		D	C				
Approach Delay		23.9			25.7			32.6				
Approach LOS		C			C			C				

Intersection Summary

Area Type: Other
Cycle Length: 92
Actuated Cycle Length: 92
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 29.2 Intersection LOS: C
Intersection Capacity Utilization 62.9% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 24: I-25 NB Frontage Road & Comanche Road

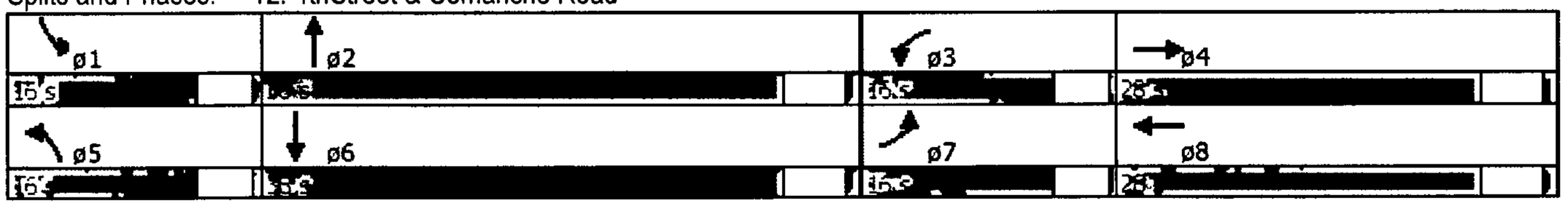


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	3.0	12.0		3.0	12.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	8.0	28.0		16.0	28.0		16.0	32.0		16.0	32.0	
Total Split (s)	16.0	28.0		16.0	28.0		16.0	38.0		16.0	38.0	
Total Split (%)	16.3%	28.6%		16.3%	28.6%		16.3%	38.8%		16.3%	38.8%	
Maximum Green (s)	12.0	23.0		12.0	23.0		12.0	33.0		12.0	33.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.5	1.0		0.5	1.0		0.5	1.0		0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	Max		None	Max	
Walk Time (s)		8.0			8.0			8.0			8.0	
Flash Dont Walk (s)		14.0			14.0			14.0			14.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	12.0	23.5		11.5	23.0		10.4	33.0		11.4	34.0	
Actuated g/C Ratio	0.12	0.24		0.12	0.24		0.11	0.34		0.12	0.35	
v/c Ratio	1.58	0.51		0.78	1.23		0.59	1.13		0.76	0.93	
Control Delay	312.1	32.4		68.1	142.8		54.5	101.4		65.5	44.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	312.1	32.4		68.1	142.8		54.5	101.4		65.5	44.4	
LOS	F	C		E	F		D	F		E	D	
Approach Delay		155.9			133.2			97.8			47.0	
Approach LOS		F			F			F			D	

Intersection Summary

Area Type: Other
Cycle Length: 98
Actuated Cycle Length: 97.4
Natural Cycle: 135
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.58
Intersection Signal Delay: 102.9 Intersection LOS: F
Intersection Capacity Utilization 105.0% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 12: 4thStreet & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases												6
Detector Phase	3	8		7	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	18.0		3.0	18.0	18.0
Minimum Split (s)	16.0	44.5		16.0	45.5		16.0	38.0		16.0	38.0	38.0
Total Split (s)	16.0	45.5		16.0	45.5		22.0	40.0		18.0	36.0	36.0
Total Split (%)	13.4%	38.1%		13.4%	38.1%		18.4%	33.5%		15.1%	30.1%	30.1%
Maximum Green (s)	12.0	40.0		12.0	40.0		18.5	35.0		14.0	31.0	31.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.5	4.0	4.0
All-Red Time (s)	0.5	2.0		0.5	2.0		0.5	1.0		0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.5		4.0	5.5		3.5	5.0		4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	Max		None	Max	Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		32.0			33.0			20.0			21.0	21.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	10.4	36.4		10.0	33.7		15.5	35.2		14.0	34.2	34.2
Actuated g/C Ratio	0.09	0.33		0.09	0.30		0.14	0.31		0.13	0.31	0.31
v/c Ratio	0.60	0.34		0.55	0.82		0.74	1.04		0.86	0.64	0.23
Control Delay	65.8	28.9		63.7	41.2		65.7	77.0		83.8	38.7	7.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	65.8	28.9		63.7	41.2		65.7	77.0		83.8	38.7	7.0
LOS	E	C		E	D		E	E		F	D	A
Approach Delay		36.3			43.3			75.4			43.2	
Approach LOS		D			D			E			D	

Intersection Summary

Area Type: Other

Cycle Length: 119.5

Actuated Cycle Length: 111.8

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

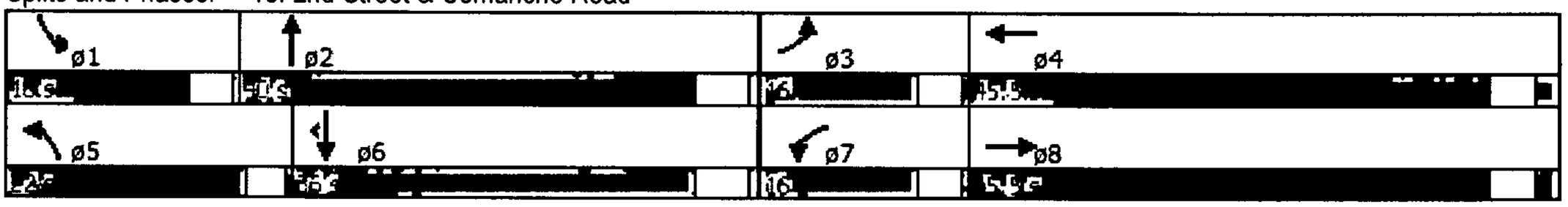
Maximum v/c Ratio: 1.04

Intersection Signal Delay: 53.7 Intersection LOS: D

Intersection Capacity Utilization 82.6% ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 15: 2nd Street & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			2			
Detector Phase	5	2		1	6	6	3	8	2	7	4	
Switch Phase												
Minimum Initial (s)	3.0	16.0		3.0	16.0	16.0	3.0	8.0	16.0	3.0	8.0	
Minimum Split (s)	16.0	32.5		16.0	33.5	33.5	16.0	34.0	32.5	16.0	34.0	
Total Split (s)	16.0	34.0		16.0	34.0	34.0	19.0	33.0	34.0	21.0	35.0	
Total Split (%)	15.4%	32.7%		15.4%	32.7%	32.7%	18.3%	31.7%	32.7%	20.2%	33.7%	
Maximum Green (s)	12.5	28.5		12.0	28.5	28.5	15.5	28.0	28.5	17.5	30.0	
Yellow Time (s)	3.0	4.0		3.5	4.0	4.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.5	1.5		0.5	1.5	1.5	0.5	1.0	1.5	0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	5.5		4.0	5.5	5.5	3.5	5.0	5.5	3.5	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min		None	Min	Min	None	Min	Min	None	Min	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		20.0			21.0	21.0		22.0	20.0		22.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	11.1	27.7		10.7	27.9	27.9	14.9	27.6	27.7	17.5	30.3	
Actuated g/C Ratio	0.11	0.27		0.11	0.27	0.27	0.15	0.27	0.27	0.17	0.30	
v/c Ratio	0.65	0.89		0.66	0.88	0.38	0.84	0.92	0.34	0.96	0.80	
Control Delay	60.0	48.0		61.2	47.1	6.0	71.1	52.1	6.1	86.3	39.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.0	48.0		61.2	47.1	6.0	71.1	52.1	6.1	86.3	39.3	
LOS	E	D		E	D	A	E	D	A	F	D	
Approach Delay		49.5			40.8			48.5			51.6	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 101.6

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

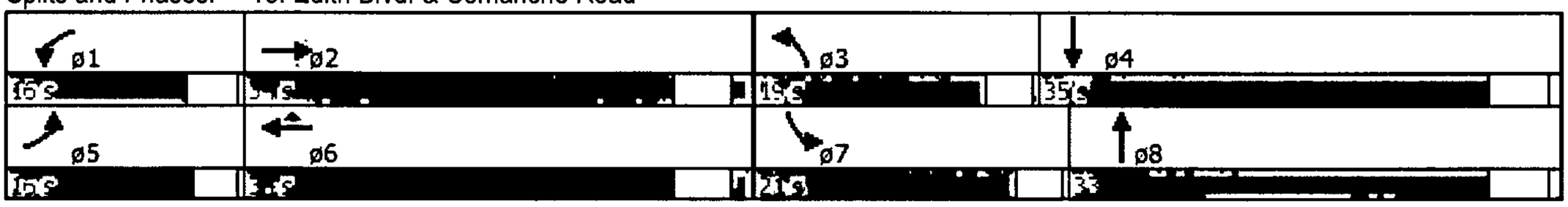
Maximum v/c Ratio: 0.96

Intersection Signal Delay: 47.5 Intersection LOS: D

Intersection Capacity Utilization 81.1% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 18: Edith Blvd. & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type		NA		Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases												4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		4.0		3.0	16.0					8.0	8.0	8.0
Minimum Split (s)		33.0		20.0	32.0					39.0	39.0	39.0
Total Split (s)		33.0		20.0	53.0					39.0	39.0	39.0
Total Split (%)		35.9%		21.7%	57.6%					42.4%	42.4%	42.4%
Maximum Green (s)		28.0		15.0	48.0					33.0	33.0	33.0
Yellow Time (s)		4.0		4.0	4.0					4.5	4.5	4.5
All-Red Time (s)		1.0		1.0	1.0					1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					6.0	6.0	6.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max		None	Max					None	None	None
Walk Time (s)		7.0			7.0					7.0	7.0	7.0
Flash Dont Walk (s)		21.0			15.0					26.0	26.0	26.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		30.7		14.1	49.8					31.2	31.2	31.2
Actuated g/C Ratio		0.33		0.15	0.54					0.34	0.34	0.34
v/c Ratio		0.97		0.75	0.53					0.67	0.76	0.28
Control Delay		52.8		48.3	11.7					31.9	31.7	11.1
Queue Delay		0.0		0.0	0.0					0.0	0.0	0.0
Total Delay		52.8		48.3	11.7					31.9	31.7	11.1
LOS		D		D	B					C	C	B
Approach Delay		52.8			22.0						29.5	
Approach LOS		D			C						C	

Intersection Summary

Area Type: Other

Cycle Length: 92

Actuated Cycle Length: 92

Offset: 20 (22%), Referenced to phase 2:EBT, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

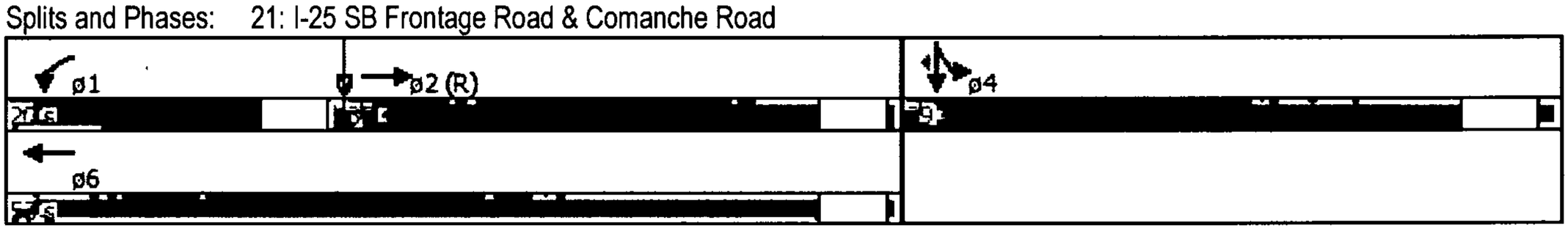
Maximum v/c Ratio: 0.97

Intersection Signal Delay: 33.3 Intersection LOS: C

Intersection Capacity Utilization 82.0% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 21: I-25 SB Frontage Road & Comanche Road

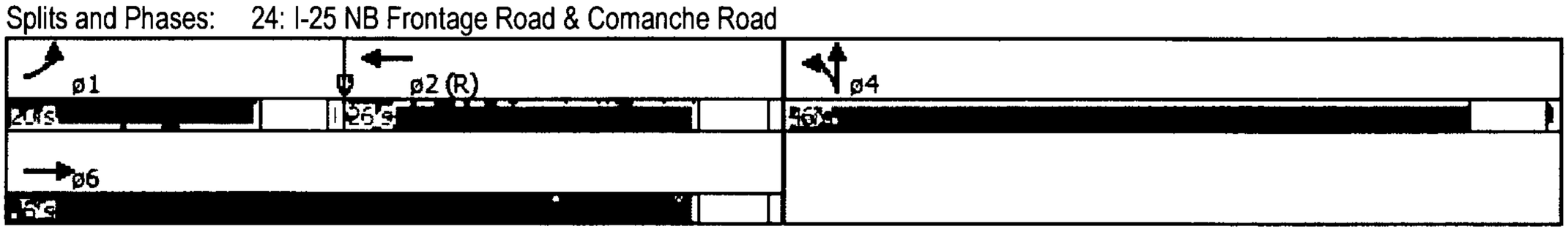


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA			NA		Split	NA				
Protected Phases	1	6			2		4	4				
Permitted Phases												
Detector Phase	1	6			2		4	4				
Switch Phase												
Minimum Initial (s)	3.0	16.0			16.0		8.0	8.0				
Minimum Split (s)	20.0	32.0			32.0		40.0	40.0				
Total Split (s)	20.0	46.0			26.0		46.0	46.0				
Total Split (%)	21.7%	50.0%			28.3%		50.0%	50.0%				
Maximum Green (s)	15.0	41.0			21.0		40.5	40.5				
Yellow Time (s)	4.0	4.0			4.0		4.5	4.5				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		5.5	5.5				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Recall Mode	None	None			C-Max		Max	Max				
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		18.0			13.0		25.0	25.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	11.5	41.0			24.5		40.5	40.5				
Actuated g/C Ratio	0.12	0.45			0.27		0.44	0.44				
v/c Ratio	0.54	0.40			1.03		1.02	1.00				
Control Delay	28.1	24.8			71.3		68.7	45.4				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	28.1	24.8			71.3		68.7	45.4				
LOS	C	C			E		E	D				
Approach Delay		25.7			71.3			51.2				
Approach LOS		C			E			D				

Intersection Summary

Area Type: Other
Cycle Length: 92
Actuated Cycle Length: 92
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 50.6 Intersection LOS: D
Intersection Capacity Utilization 82.0% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 24: I-25 NB Frontage Road & Comanche Road

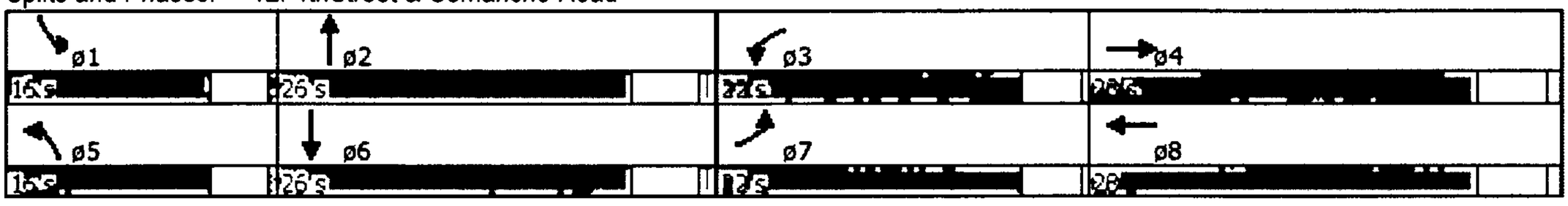


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	3.0	12.0		3.0	12.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	8.0	28.0		16.0	28.0		16.0	32.0		16.0	32.0	
Total Split (s)	22.0	28.0		22.0	28.0		16.0	26.0		16.0	26.0	
Total Split (%)	23.9%	30.4%		23.9%	30.4%		17.4%	28.3%		17.4%	28.3%	
Maximum Green (s)	18.0	23.0		18.0	23.0		12.0	21.0		12.0	21.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.5	1.0		0.5	1.0		0.5	1.0		0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	Max		None	Max	
Walk Time (s)		8.0			8.0			8.0			8.0	
Flash Dont Walk (s)		14.0			14.0			14.0			14.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	17.1	23.0		9.9	13.6		6.6	22.1		11.7	33.3	
Actuated g/C Ratio	0.21	0.28		0.12	0.16		0.08	0.27		0.14	0.40	
v/c Ratio	0.81	0.54		0.46	0.54		0.16	0.58		0.78	0.70	
Control Delay	50.5	27.7		41.2	24.2		39.0	29.1		58.2	25.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	50.5	27.7		41.2	24.2		39.0	29.1		58.2	25.9	
LOS	D	C		D	C		D	C		E	C	
Approach Delay		35.9			27.9			29.5			31.3	
Approach LOS		D			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 92
Actuated Cycle Length: 82.5
Natural Cycle: 95
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 31.7 Intersection LOS: C
Intersection Capacity Utilization 68.9% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 12: 4thStreet & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases												6
Detector Phase	3	8		7	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	18.0		3.0	18.0	18.0
Minimum Split (s)	16.0	44.5		16.0	45.5		16.0	38.0		16.0	38.0	38.0
Total Split (s)	16.0	44.5		16.0	45.5		16.0	34.0		20.0	38.0	38.0
Total Split (%)	13.9%	38.5%		13.9%	39.4%		13.9%	29.4%		17.3%	32.9%	32.9%
Maximum Green (s)	12.0	39.0		12.0	40.0		12.5	29.0		16.0	33.0	33.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.5	4.0	4.0
All-Red Time (s)	0.5	2.0		0.5	2.0		0.5	1.0		0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.5		4.0	5.5		3.5	5.0		4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	Max		None	Max	Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		32.0			33.0			20.0			21.0	21.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	10.8	23.2		8.9	18.9		8.3	29.3		15.6	39.2	39.2
Actuated g/C Ratio	0.12	0.25		0.10	0.20		0.09	0.31		0.17	0.42	0.42
v/c Ratio	0.62	0.68		0.41	0.50		0.35	0.64		0.77	0.70	0.09
Control Delay	55.1	35.6		49.3	29.3		48.3	31.9		57.3	28.5	2.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	55.1	35.6		49.3	29.3		48.3	31.9		57.3	28.5	2.5
LOS	E	D		D	C		D	C		E	C	A
Approach Delay		39.0			32.6			33.0			32.2	
Approach LOS		D			C			C			C	

Intersection Summary
Area Type: Other
Cycle Length: 115.5
Actuated Cycle Length: 93.3
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 34.0 Intersection LOS: C
Intersection Capacity Utilization 68.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 15: 2nd Street & Comanche Road

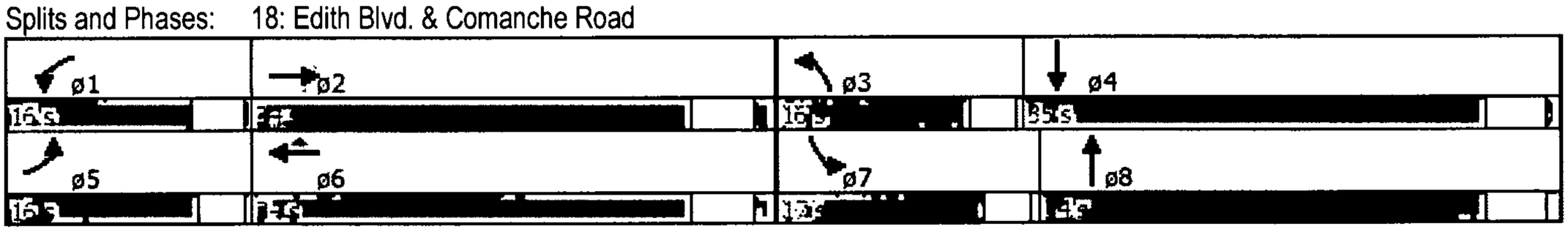


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			2			
Detector Phase	5	2		1	6	6	3	8	2	7	4	
Switch Phase												
Minimum Initial (s)	3.0	16.0		3.0	16.0	16.0	3.0	8.0	16.0	3.0	8.0	
Minimum Split (s)	16.0	32.5		16.0	33.5	33.5	16.0	34.0	32.5	16.0	34.0	
Total Split (s)	16.0	34.0		16.0	34.0	34.0	16.0	34.0	34.0	17.0	35.0	
Total Split (%)	15.8%	33.7%		15.8%	33.7%	33.7%	15.8%	33.7%	33.7%	16.8%	34.7%	
Maximum Green (s)	12.5	28.5		12.0	28.5	28.5	12.5	29.0	28.5	13.5	30.0	
Yellow Time (s)	3.0	4.0		3.5	4.0	4.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.5	1.5		0.5	1.5	1.5	0.5	1.0	1.5	0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	5.5		4.0	5.5	5.5	3.5	5.0	5.5	3.5	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min		None	Min	Min	None	Min	Min	None	Min	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		20.0			21.0	21.0		22.0	20.0		22.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	11.4	25.5		11.4	26.0	26.0	7.2	17.9	25.5	13.0	28.0	
Actuated g/C Ratio	0.13	0.30		0.13	0.30	0.30	0.08	0.21	0.30	0.15	0.33	
v/c Ratio	0.67	0.80		0.70	0.42	0.29	0.22	0.63	0.24	0.76	0.60	
Control Delay	53.0	34.8		55.4	26.4	5.7	43.6	35.7	6.0	56.6	28.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.0	34.8		55.4	26.4	5.7	43.6	35.7	6.0	56.6	28.4	
LOS	D	C		E	C	A	D	D	A	E	C	
Approach Delay		37.7			27.9			29.9			34.9	
Approach LOS		D			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 101
Actuated Cycle Length: 86.1
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 33.1 Intersection LOS: C
Intersection Capacity Utilization 67.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 18: Edith Blvd. & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases												4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		4.0		3.0	16.0					8.0	8.0	8.0
Minimum Split (s)		33.0		20.0	32.0					39.0	39.0	39.0
Total Split (s)		33.0		20.0	53.0					39.0	39.0	39.0
Total Split (%)		35.9%		21.7%	57.6%					42.4%	42.4%	42.4%
Maximum Green (s)		28.0		15.0	48.0					33.0	33.0	33.0
Yellow Time (s)		4.0		4.0	4.0					4.5	4.5	4.5
All-Red Time (s)		1.0		1.0	1.0					1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					6.0	6.0	6.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max		None	Max					None	None	None
Walk Time (s)		7.0			7.0					7.0	7.0	7.0
Flash Dont Walk (s)		21.0			15.0					26.0	26.0	26.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		31.0		14.6	50.7					30.3	30.3	30.3
Actuated g/C Ratio		0.34		0.16	0.55					0.33	0.33	0.33
v/c Ratio		0.81		0.81	0.55					0.56	0.74	0.27
Control Delay		34.0		50.1	15.2					29.1	31.5	11.1
Queue Delay		0.0		0.0	0.3					0.0	0.0	0.0
Total Delay		34.0		50.1	15.5					29.1	31.5	11.1
LOS		C		D	B					C	C	B
Approach Delay		34.0			25.6						28.6	
Approach LOS		C			C						C	

Intersection Summary

Area Type: Other

Cycle Length: 92

Actuated Cycle Length: 92

Offset: 20 (22%), Referenced to phase 2:EBT, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

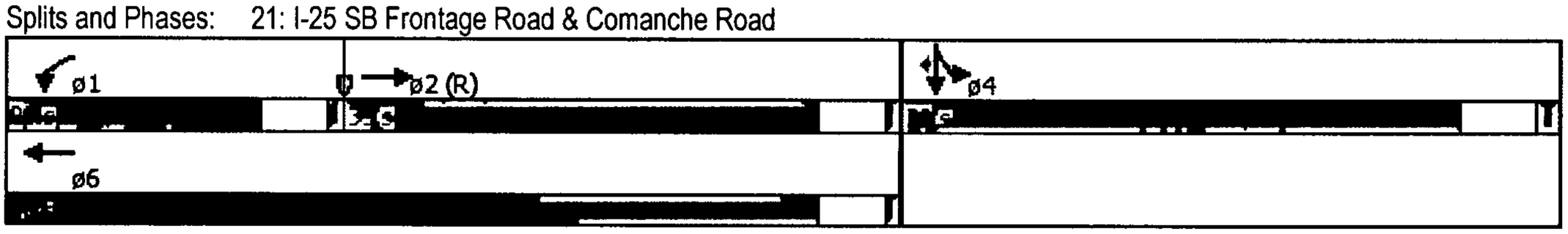
Maximum v/c Ratio: 0.81

Intersection Signal Delay: 28.7 Intersection LOS: C

Intersection Capacity Utilization 71.0% ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 21: I-25 SB Frontage Road & Comanche Road

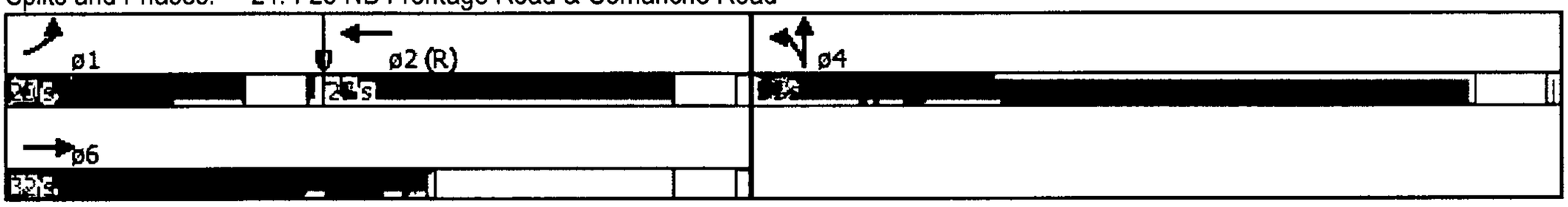


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases												
Detector Phase	1	6			2		4	4				
Switch Phase												
Minimum Initial (s)	3.0	16.0			16.0		8.0	8.0				
Minimum Split (s)	20.0	32.0			32.0		40.0	40.0				
Total Split (s)	20.0	32.0			27.0		51.0	51.0				
Total Split (%)	20.4%	32.7%			27.6%		52.0%	52.0%				
Maximum Green (s)	15.0	27.0			22.0		45.5	45.5				
Yellow Time (s)	4.0	4.0			4.0		4.5	4.5				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		5.5	5.5				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Recall Mode	None	None			C-Max		Max	Max				
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		18.0			13.0		25.0	25.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	12.1	42.0			24.9		45.5	45.5				
Actuated g/C Ratio	0.12	0.43			0.25		0.46	0.46				
v/c Ratio	0.58	0.43			0.87		0.79	0.76				
Control Delay	45.8	20.7			46.9		32.2	22.8				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	45.8	20.7			46.9		32.2	22.8				
LOS	D	C			D		C	C				
Approach Delay		27.6			46.9			25.1				
Approach LOS		C			D			C				

Intersection Summary

Area Type: Other
Cycle Length: 98
Actuated Cycle Length: 98
Offset: 20 (20%), Referenced to phase 2:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 30.0 Intersection LOS: C
Intersection Capacity Utilization 71.0% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 24: I-25 NB Frontage Road & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	3.0	12.0		3.0	12.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	8.0	28.0		16.0	28.0		16.0	32.0		16.0	32.0	
Total Split (s)	22.0	28.0		22.0	28.0		16.0	32.0		16.0	32.0	
Total Split (%)	22.4%	28.6%		22.4%	28.6%		16.3%	32.7%		16.3%	32.7%	
Maximum Green (s)	18.0	23.0		18.0	23.0		12.0	27.0		12.0	27.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.5	1.0		0.5	1.0		0.5	1.0		0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	Max		None	Max	
Walk Time (s)		8.0			8.0			8.0			8.0	
Flash Dont Walk (s)		14.0			14.0			14.0			14.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	17.5	19.7		11.4	13.6		8.7	27.1		11.1	31.5	
Actuated g/C Ratio	0.20	0.23		0.13	0.16		0.10	0.31		0.13	0.36	
v/c Ratio	0.83	0.43		0.54	0.64		0.39	0.86		0.67	0.78	
Control Delay	55.7	26.7		44.5	21.8		43.9	38.1		53.0	31.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	55.7	26.7		44.5	21.8		43.9	38.1		53.0	31.3	
LOS	E	C		D	C		D	D		D	C	
Approach Delay		40.1			26.7			38.5			34.2	
Approach LOS		D			C			D			C	

Intersection Summary

Area Type: Other

Cycle Length: 98

Actuated Cycle Length: 87.3

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

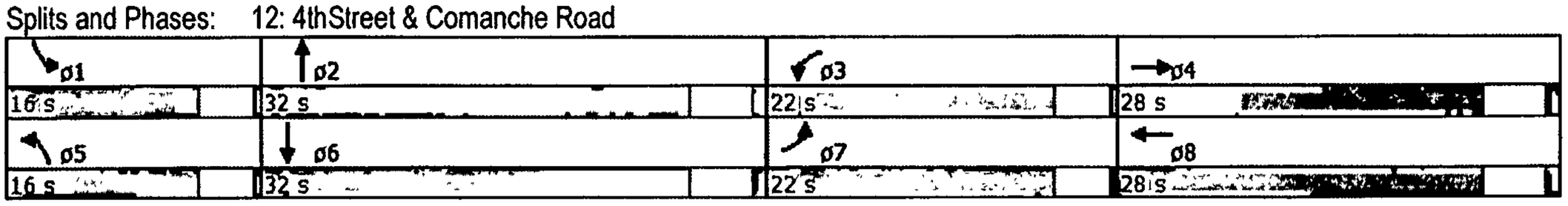
Maximum v/c Ratio: 0.86

Intersection Signal Delay: 35.3 Intersection LOS: D

Intersection Capacity Utilization 74.5% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 12: 4thStreet & Comanche Road

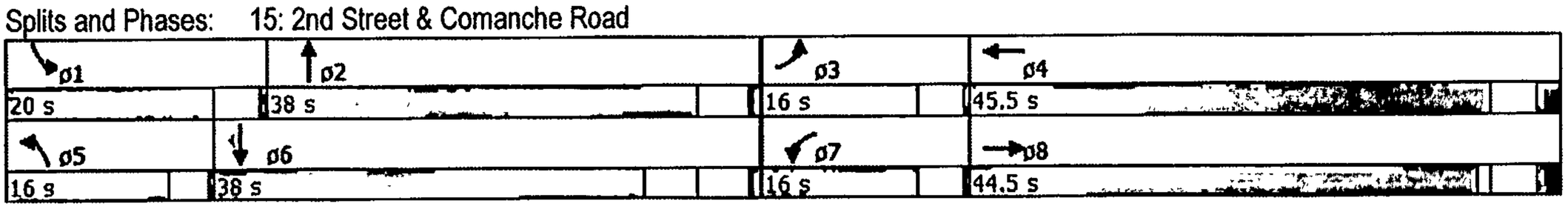


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases												6
Detector Phase	3	8		7	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	18.0		3.0	18.0	18.0
Minimum Split (s)	16.0	44.5		16.0	45.5		16.0	38.0		16.0	38.0	38.0
Total Split (s)	16.0	44.5		16.0	45.5		16.0	38.0		20.0	38.0	38.0
Total Split (%)	13.4%	37.2%		13.4%	38.1%		13.4%	31.8%		16.7%	31.8%	31.8%
Maximum Green (s)	12.0	39.0		12.0	40.0		12.5	33.0		16.0	33.0	33.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.5	4.0	4.0
All-Red Time (s)	0.5	2.0		0.5	2.0		0.5	1.0		0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.5		4.0	5.5		3.5	5.0		4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	Max		None	Max	Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		32.0			33.0			20.0			21.0	21.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	10.3	22.0		9.5	18.8		9.1	33.4		12.7	39.6	39.6
Actuated g/C Ratio	0.11	0.23		0.10	0.20		0.10	0.36		0.14	0.42	0.42
v/c Ratio	0.56	0.51		0.47	0.71		0.42	0.47		0.63	0.38	0.13
Control Delay	53.4	33.2		50.9	37.9		49.5	26.2		51.8	21.9	5.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	53.4	33.2		50.9	37.9		49.5	26.2		51.8	21.9	5.4
LOS	D	C		D	D		D	C		D	C	A
Approach Delay		37.4			39.8			28.7			25.5	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 119.5
Actuated Cycle Length: 93.8
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 32.0 Intersection LOS: C
Intersection Capacity Utilization 64.4% ICU Level of Service C
Analysis Period (min) 15

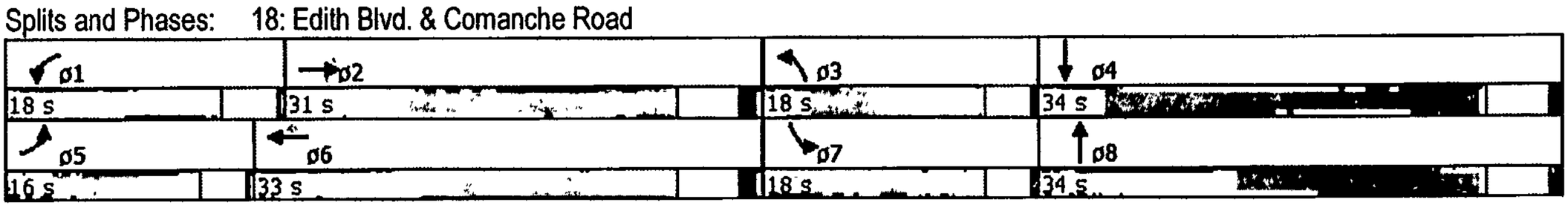
Splits and Phases: 15: 2nd Street & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			2			
Detector Phase	5	2		1	6	6	3	8	2	7	4	
Switch Phase												
Minimum Initial (s)	3.0	16.0		3.0	16.0	16.0	3.0	8.0	16.0	3.0	8.0	
Minimum Split (s)	16.0	32.5		16.0	33.5	33.5	16.0	34.0	32.5	16.0	34.0	
Total Split (s)	16.0	31.0		18.0	33.0	33.0	18.0	34.0	31.0	18.0	34.0	
Total Split (%)	15.8%	30.7%		17.8%	32.7%	32.7%	17.8%	33.7%	30.7%	17.8%	33.7%	
Maximum Green (s)	12.5	25.5		14.0	27.5	27.5	14.5	29.0	25.5	14.5	29.0	
Yellow Time (s)	3.0	4.0		3.5	4.0	4.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.5	1.5		0.5	1.5	1.5	0.5	1.0	1.5	0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	5.5		4.0	5.5	5.5	3.5	5.0	5.5	3.5	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min		None	Min	Min	None	Min	Min	None	Min	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		20.0			21.0	21.0		22.0	20.0		22.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	9.8	22.4		13.1	28.8	28.8	9.3	18.2	22.4	11.5	22.9	
Actuated g/C Ratio	0.12	0.27		0.16	0.34	0.34	0.11	0.22	0.27	0.14	0.27	
v/c Ratio	0.49	0.74		0.71	0.44	0.29	0.41	0.66	0.30	0.57	0.58	
Control Delay	45.9	33.6		51.9	25.4	5.4	44.0	35.2	6.5	46.0	30.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.9	33.6		51.9	25.4	5.4	44.0	35.2	6.5	46.0	30.0	
LOS	D	C		D	C	A	D	D	A	D	C	
Approach Delay		35.2			26.9			30.0			33.2	
Approach LOS		D			C			C			C	

Intersection Summary
Area Type: Other
Cycle Length: 101
Actuated Cycle Length: 83.6
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 31.1 Intersection LOS: C
Intersection Capacity Utilization 64.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 18: Edith Blvd. & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type		NA		Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases												4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		4.0		3.0	16.0					8.0	8.0	8.0
Minimum Split (s)		33.0		20.0	32.0					39.0	39.0	39.0
Total Split (s)		32.0		20.0	52.0					40.0	40.0	40.0
Total Split (%)		34.8%		21.7%	56.5%					43.5%	43.5%	43.5%
Maximum Green (s)		27.0		15.0	47.0					34.0	34.0	34.0
Yellow Time (s)		4.0		4.0	4.0					4.5	4.5	4.5
All-Red Time (s)		1.0		1.0	1.0					1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					6.0	6.0	6.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max		None	Max					None	None	None
Walk Time (s)		7.0			7.0					7.0	7.0	7.0
Flash Dont Walk (s)		21.0			15.0					26.0	26.0	26.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		32.1		13.3	50.4					30.6	30.6	30.6
Actuated g/C Ratio		0.35		0.14	0.55					0.33	0.33	0.33
v/c Ratio		0.65		0.66	0.44					0.62	0.71	0.27
Control Delay		27.1		48.4	16.8					30.6	30.3	6.8
Queue Delay		0.0		0.0	0.0					0.0	0.0	0.0
Total Delay		27.1		48.4	16.8					30.6	30.3	6.8
LOS		C		D	B					C	C	A
Approach Delay		27.1			25.5						27.6	
Approach LOS		C			C						C	

Intersection Summary

Area Type: Other

Cycle Length: 92

Actuated Cycle Length: 92

Offset: 20 (22%), Referenced to phase 2:EBT, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

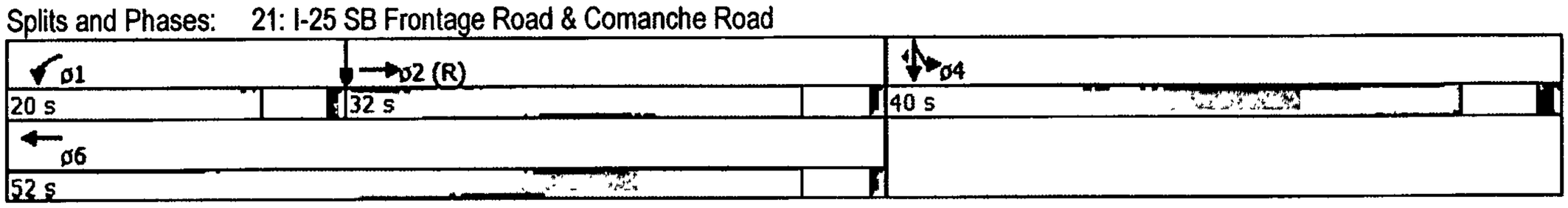
Maximum v/c Ratio: 0.71

Intersection Signal Delay: 26.7 Intersection LOS: C

Intersection Capacity Utilization 64.2% ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 21: I-25 SB Frontage Road & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA			NA		Split	NA				
Protected Phases	1	6			2		4	4				
Permitted Phases												
Detector Phase	1	6			2		4	4				
Switch Phase												
Minimum Initial (s)	3.0	16.0			16.0		8.0	8.0				
Minimum Split (s)	20.0	32.0			32.0		40.0	40.0				
Total Split (s)	20.0	52.0			32.0		40.0	40.0				
Total Split (%)	21.7%	56.5%			34.8%		43.5%	43.5%				
Maximum Green (s)	15.0	47.0			27.0		34.5	34.5				
Yellow Time (s)	4.0	4.0			4.0		4.5	4.5				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		5.5	5.5				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Recall Mode	None	None			C-Max		Max	Max				
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		18.0			13.0		25.0	25.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	11.1	47.0			30.9		34.5	34.5				
Actuated g/C Ratio	0.12	0.51			0.34		0.38	0.38				
v/c Ratio	0.52	0.34			0.56		0.87	0.84				
Control Delay	30.0	21.6			26.1		44.7	30.0				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	30.0	21.6			26.1		44.7	30.0				
LOS	C	C			C		D	C				
Approach Delay		23.8			26.1			33.7				
Approach LOS		C			C			C				

Intersection Summary

Area Type: Other

Cycle Length: 92

Actuated Cycle Length: 92

Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

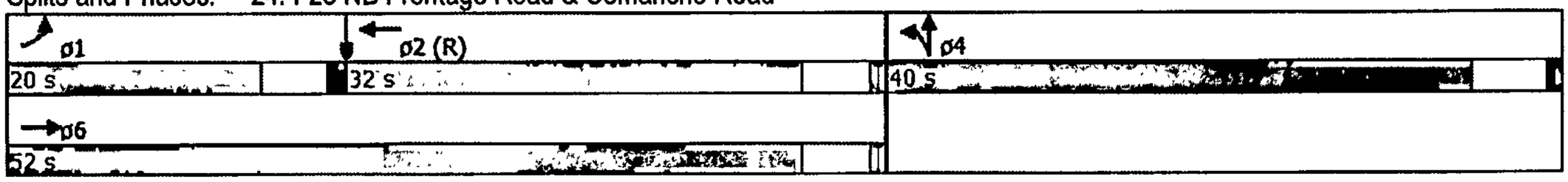
Maximum v/c Ratio: 0.87

Intersection Signal Delay: 29.9 Intersection LOS: C

Intersection Capacity Utilization 64.2% ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 24: I-25 NB Frontage Road & Comanche Road

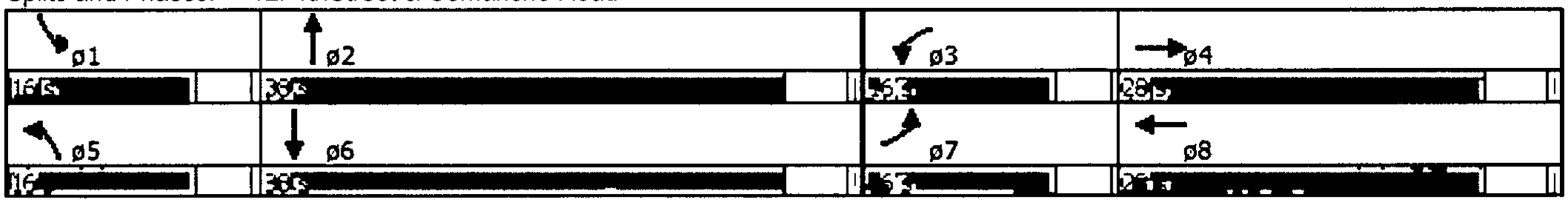


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	3.0	12.0		3.0	12.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	8.0	28.0		16.0	28.0		16.0	32.0		16.0	32.0	
Total Split (s)	16.0	28.0		16.0	28.0		16.0	38.0		16.0	38.0	
Total Split (%)	16.3%	28.6%		16.3%	28.6%		16.3%	38.8%		16.3%	38.8%	
Maximum Green (s)	12.0	23.0		12.0	23.0		12.0	33.0		12.0	33.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.5	1.0		0.5	1.0		0.5	1.0		0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	Max		None	Max	
Walk Time (s)		8.0			8.0			8.0			8.0	
Flash Dont Walk (s)		14.0			14.0			14.0			14.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	12.0	23.5		11.5	23.0		10.4	33.0		11.4	34.0	
Actuated g/C Ratio	0.12	0.24		0.12	0.24		0.11	0.34		0.12	0.35	
v/c Ratio	1.58	0.51		0.78	1.23		0.59	1.13		0.75	0.93	
Control Delay	312.1	32.4		68.0	142.7		54.5	101.2		64.4	44.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	312.1	32.4		68.0	142.7		54.5	101.2		64.4	44.5	
LOS	F	C		E	F		D	F		E	D	
Approach Delay		155.8			133.0			97.7			46.9	
Approach LOS		F			F			F			D	

Intersection Summary

Area Type: Other
Cycle Length: 98
Actuated Cycle Length: 97.4
Natural Cycle: 135
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.58
Intersection Signal Delay: 102.8 Intersection LOS: F
Intersection Capacity Utilization 104.8% ICU Level of Service G
Analysis Period (min) 15

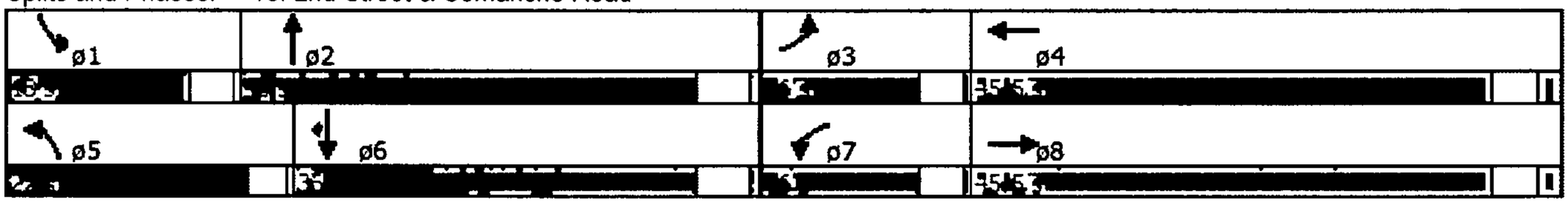
Splits and Phases: 12: 4thStreet & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases												6
Detector Phase	3	8		7	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	3.0	8.0		3.0	8.0		3.0	18.0		3.0	18.0	18.0
Minimum Split (s)	16.0	44.5		16.0	45.5		16.0	38.0		16.0	38.0	38.0
Total Split (s)	16.0	45.5		16.0	45.5		22.0	40.0		18.0	36.0	36.0
Total Split (%)	13.4%	38.1%		13.4%	38.1%		18.4%	33.5%		15.1%	30.1%	30.1%
Maximum Green (s)	12.0	40.0		12.0	40.0		18.5	35.0		14.0	31.0	31.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.5	4.0	4.0
All-Red Time (s)	0.5	2.0		0.5	2.0		0.5	1.0		0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.5		4.0	5.5		3.5	5.0		4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	Max		None	Max	Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		32.0			33.0			20.0			21.0	21.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effct Green (s)	10.4	36.4		10.0	33.7		15.5	35.2		14.0	34.2	34.2
Actuated g/C Ratio	0.09	0.33		0.09	0.30		0.14	0.31		0.13	0.31	0.31
v/c Ratio	0.60	0.34		0.55	0.82		0.74	1.04		0.86	0.64	0.23
Control Delay	65.8	28.9		63.7	41.2		65.7	77.0		83.8	38.7	7.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	65.8	28.9		63.7	41.2		65.7	77.0		83.8	38.7	7.0
LOS	E	C		E	D		E	E		F	D	A
Approach Delay		36.3			43.3			75.4			43.2	
Approach LOS		D			D			E			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 119.5	
Actuated Cycle Length: 111.8	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 53.7	Intersection LOS: D
Intersection Capacity Utilization 82.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 15: 2nd Street & Comanche Road

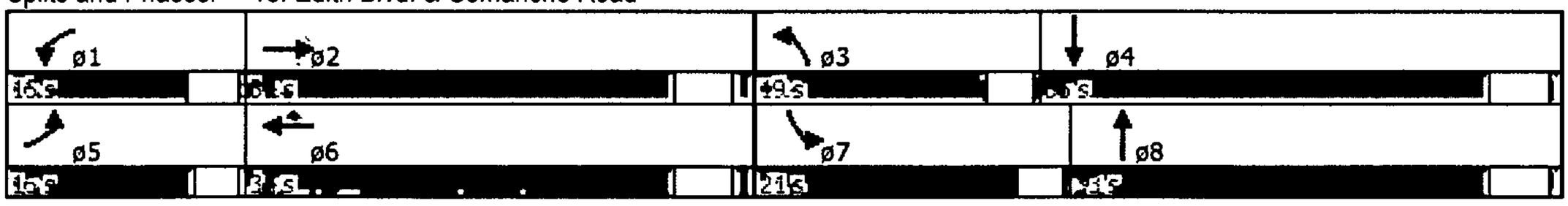


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			2			
Detector Phase	5	2		1	6	6	3	8	2	7	4	
Switch Phase												
Minimum Initial (s)	3.0	16.0		3.0	16.0	16.0	3.0	8.0	16.0	3.0	8.0	
Minimum Split (s)	16.0	32.5		16.0	33.5	33.5	16.0	34.0	32.5	16.0	34.0	
Total Split (s)	16.0	34.0		16.0	34.0	34.0	19.0	33.0	34.0	21.0	35.0	
Total Split (%)	15.4%	32.7%		15.4%	32.7%	32.7%	18.3%	31.7%	32.7%	20.2%	33.7%	
Maximum Green (s)	12.5	28.5		12.0	28.5	28.5	15.5	28.0	28.5	17.5	30.0	
Yellow Time (s)	3.0	4.0		3.5	4.0	4.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	0.5	1.5		0.5	1.5	1.5	0.5	1.0	1.5	0.5	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.5	5.5		4.0	5.5	5.5	3.5	5.0	5.5	3.5	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min		None	Min	Min	None	Min	Min	None	Min	
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		20.0			21.0	21.0		22.0	20.0		22.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	11.1	27.8		11.6	28.7	28.7	14.9	27.7	27.8	17.5	30.3	
Actuated g/C Ratio	0.11	0.27		0.11	0.28	0.28	0.15	0.27	0.27	0.17	0.30	
v/c Ratio	0.65	0.90		0.81	0.86	0.37	0.85	0.93	0.39	0.97	0.81	
Control Delay	60.5	49.0		74.8	45.5	5.9	72.4	53.2	6.0	89.3	40.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.5	49.0		74.8	45.5	5.9	72.4	53.2	6.0	89.3	40.0	
LOS	E	D		E	D	A	E	D	A	F	D	
Approach Delay		50.4			42.1			48.2			52.8	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 104
Actuated Cycle Length: 102.6
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 48.2 Intersection LOS: D
Intersection Capacity Utilization 83.1% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 18: Edith Blvd. & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type		NA		Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases												4
Detector Phase		2		1	6					4	4	4
Switch Phase												
Minimum Initial (s)		4.0		3.0	16.0					8.0	8.0	8.0
Minimum Split (s)		33.0		20.0	32.0					39.0	39.0	39.0
Total Split (s)		33.0		20.0	53.0					39.0	39.0	39.0
Total Split (%)		35.9%		21.7%	57.6%					42.4%	42.4%	42.4%
Maximum Green (s)		28.0		15.0	48.0					33.0	33.0	33.0
Yellow Time (s)		4.0		4.0	4.0					4.5	4.5	4.5
All-Red Time (s)		1.0		1.0	1.0					1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	5.0					6.0	6.0	6.0
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max		None	Max					None	None	None
Walk Time (s)		7.0			7.0					7.0	7.0	7.0
Flash Dont Walk (s)		21.0			15.0					26.0	26.0	26.0
Pedestrian Calls (#/hr)		0			0					0	0	0
Act Effct Green (s)		30.7		14.1	49.8					31.2	31.2	31.2
Actuated g/C Ratio		0.33		0.15	0.54					0.34	0.34	0.34
v/c Ratio		1.01		0.75	0.55					0.67	0.76	0.29
Control Delay		61.8		48.3	12.1					31.9	31.7	11.9
Queue Delay		0.0		0.0	0.3					0.0	0.0	0.0
Total Delay		61.8		48.3	12.5					31.9	31.7	11.9
LOS		E		D	B					C	C	B
Approach Delay		61.8			22.2						29.6	
Approach LOS		E			C						C	

Intersection Summary

Area Type: Other

Cycle Length: 92

Actuated Cycle Length: 92

Offset: 20 (22%), Referenced to phase 2:EBT, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

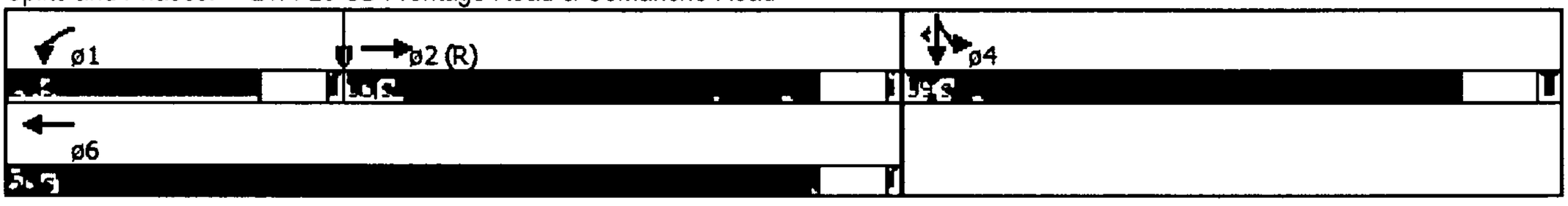
Maximum v/c Ratio: 1.01

Intersection Signal Delay: 36.1 Intersection LOS: D

Intersection Capacity Utilization 82.7% ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 21: I-25 SB Frontage Road & Comanche Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA			NA		Split	NA				
Protected Phases	1	6			2		4	4				
Permitted Phases												
Detector Phase	1	6			2		4	4				
Switch Phase												
Minimum Initial (s)	3.0	16.0			16.0		8.0	8.0				
Minimum Split (s)	20.0	32.0			32.0		40.0	40.0				
Total Split (s)	20.0	46.0			26.0		46.0	46.0				
Total Split (%)	21.7%	50.0%			28.3%		50.0%	50.0%				
Maximum Green (s)	15.0	41.0			21.0		40.5	40.5				
Yellow Time (s)	4.0	4.0			4.0		4.5	4.5				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	5.0	5.0			5.0		5.5	5.5				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Recall Mode	None	None			C-Max		Max	Max				
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		18.0			13.0		25.0	25.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	11.6	41.0			24.4		40.5	40.5				
Actuated g/C Ratio	0.13	0.45			0.27		0.44	0.44				
v/c Ratio	0.55	0.40			1.04		1.04	1.01				
Control Delay	27.8	24.7			74.2		72.1	48.5				
Queue Delay	0.0	0.0			0.0		0.0	0.0				
Total Delay	27.8	24.7			74.2		72.1	48.5				
LOS	C	C			E		E	D				
Approach Delay		25.6			74.2			54.3				
Approach LOS		C			E			D				

Intersection Summary

Area Type: Other
Cycle Length: 92
Actuated Cycle Length: 92
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 53.1 Intersection LOS: D
Intersection Capacity Utilization 82.7% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 24: I-25 NB Frontage Road & Comanche Road

