STATE ROUTE 227
OPERATIONS STUDY
TECHNICAL APPENDICES

SLOCOG
SAN LUIS OBISPO COUNCIL OF GOVERNMENTS

SR 227 OPERATIONS STUDY

December 7, 2016

Prepared for:

San Luis Obispo Council of Governments

Prepared in partnership with:
Caltrans District 5
County of San Luis Obispo
City of San Luis Obispo

Prepared by:
Kimley Horn & Associates, Inc.
555 Capitol Mall, Suite 300
Sacramento, California 95814
Project Manager: Jim Damkowitch

In association with Wallace Group, Kittelson & Associates, Rincon Consultants, Regional Government Services, Digiwest and Quality Counts

Key SLOCOG Project Staff

Executive Director . . . . Ronald L. De Carli
Division Chief, Programming . . . . Richard Murphy
Transportation Planner III (Project Manager) . . . . Jeff Brubaker
Public Information Officer . . . . Stephanie Hicks

List of Appendices (Provided Under Separate Cover)

555 Capitol Mall, Suite 300
Sacramento, CA 95814
916 858 5800

APPENDIX A

PUBLIC OUTREACH

***November 19th, 2015* PUBLIC WORKSHOP FOR THE 227 Operational Analysis Study**
6:00 p.m. to 8:00 p.m.
Los Ranchos Elementary School Library

Public Workshop Notes
By Carrie Anne Carter
November 24th, 2015

Consultants in attendance (in addition Jeff Brubaker, PM, SLOCOG):
Shahrzad Pantera – RGS
Carrie Anne Carter – RGS
Darryl DePencier - Kittleson
Jorge Aguilar – Wallace Group
Jim Damkowitch – Kimley-Horn

Demographics of Attendees:
Approximately 55 attendees, even mix of women and men
Mix of retired community member to young families with children/baby and a transient community member. More than 70% of attendees were daily commuters of 227.

Big Picture:

- Mayor Jan Marx stated that the many problems and congestion on the 101 push drivers to use the 227 as The Alternate Route.
- Clearing up 227's congestion should be a Local concern using Local dollars: whereas, the issues of 101 should be the State's priority using State dollars (as SLO County's budget was reduced to $6.5M this year as compared to $20M in previous years).
- Mayor Marx and Rep. Hill promised to put this Study at the top of their Priority List

Concerns of Residents (Survey Evaluations + Notes):

- Residents would like to ride bikes more and walk more along 227 – Safety issue there, as there is no convenient shoulder
- 5 Participants commuted through 227, and did **NOT** live in the area. They use 227 as an alternate route – traffic can be sporadic, mostly at Buckley Road intersection and also Airport cross-section.

Misc:

- Completion of Study in approximately 3-4 months
- Blue Mac Data to be compiled sometime after Thanksgiving
- 2nd Public Meeting TBD

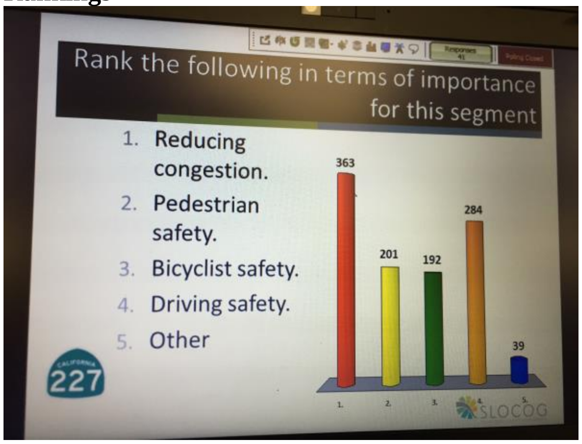
The biggest concerns of the night (in this order) were:

1. Reducing congestion on 227
2. Driving Safety
3. Pedestrian Safety
4. Bicyclist Safety

Other Concerns are:

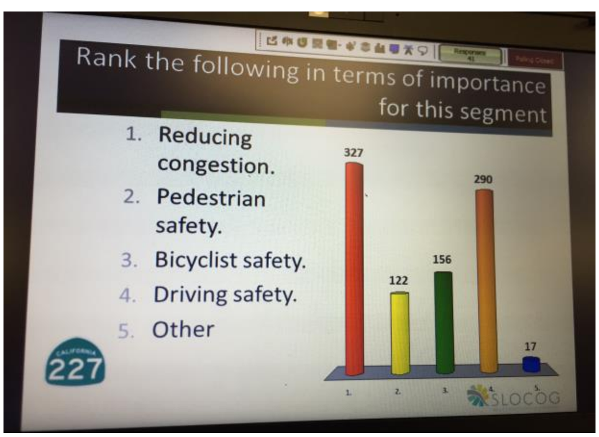
- Commuting time from Country Club Drive to Downtown SLO (can take anywhere from 10 min to 25+min)
- Residents not able to walk/run thru the study area due to no shoulder or sidewalk, and safety concerns
- Lots of noise pollution due to increased Construction along 227

Rankings



<u>From Tank Farm to Buckley Road</u>

1. Reducing Congestion (Not enough space for U-turns)
2. Pedestrian Safety
3. Bicycle Safety
   - Need more Green Lanes highlighting bike lanes
4. Driving Safety
   - Going Right at the Red light further congests the flow of traffic, not allowing for any gaps for other vehicles or bikes. What happened to the No Right Turn on Red Flashing Sign? Suggestions were: ***Need a camera there to "send out" tickets to violators and Further Enforcement or a "Keep Clear" area at Crestmont Area.***
   - Neighbors in the Crestmont/Rolling Hills area try to help each other out by creating an artificial gap – thereby letting cars cross over to the neighborhood – but that remains dangerous as drivers now are passing on the Shoulder of the road/vehicle.
   - Residents unable to get out of their driveways directly on to 227.
   - Need to put in a light asap (it was estimated the cost is $300K, which does Not include maintenance)



<u>From Buckley Road to Biddle Ranch Road</u>

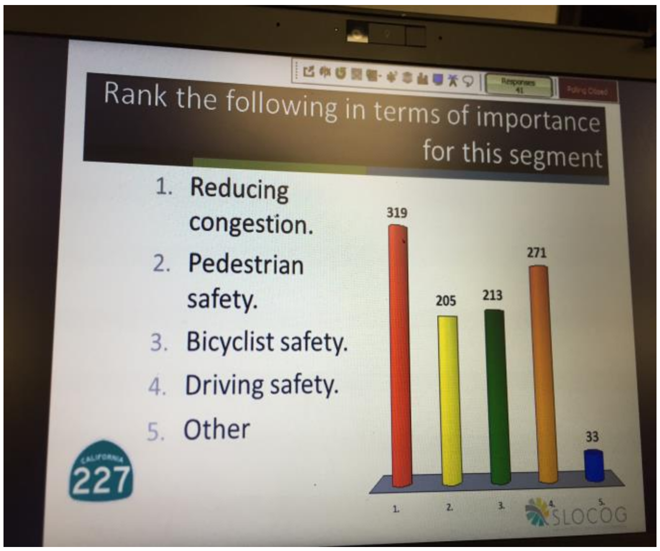
1. Reducing Congestion
   a. Neighbors in the Crestmont/Rolling Hills area try to help each other out by creating an artificial gap – thereby letting cars cross over to the neighborhood – but that remains dangerous, as drivers now are passing on the Shoulder of the road/vehicle.

Residents unable to get out of their driveways directly on to 227

2. Pedestrian Safety
    a. Need more Green Lanes highlighting bike lanes
3. Bicycle Safety
4. Driving Safety - Need to put in a light asap (stated cost is $300K, which does Not include maintenance)

****Other** – (participants choose “Other” in polling)

Any consideration for U-Turns?
Does the right turn on red cause congestion? And do we need to look at that gap analysis?
Signal timings should be looked at, in order to have intersections functioning better
Three lights in the intersections are not coordinated.
Does the right turn on red cause congestion?
We need to look at a gap analysis. There is a light that says no turn on red, but the light is always off.
The 3 lights in the intersections are not coordinated.
Look at the non-signalized sections
Not all neighbors are friendly, and it has caused accidents when you are allows others to come onto 227.
Lots of people are driving on the shoulder to try to make a faster right hand turn.



Biddle Ranch Road to Price Canyon

1. Heavy Congestion during early morning, and after 5p – Commuting
2. Very Dark with no traffic line safety lights
3. Impossible to commute using bike/pedestrian – lots of tight curves and no shoulder
4. Driving Safety

Other: Bicycle safety, on top of the bridge there are some drainage ditch & grates that are not unsafe.

SR 227 Operational Study
Public Workshop #2

- Study administered by SLOCOG
- In partnership with SLO County, SLO City, and Caltrans

May 24, 2016

Joe Johnston - jjohnston@thetribunenews.com

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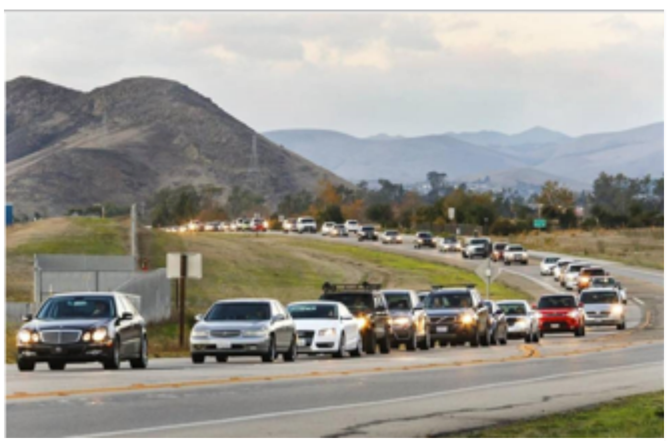
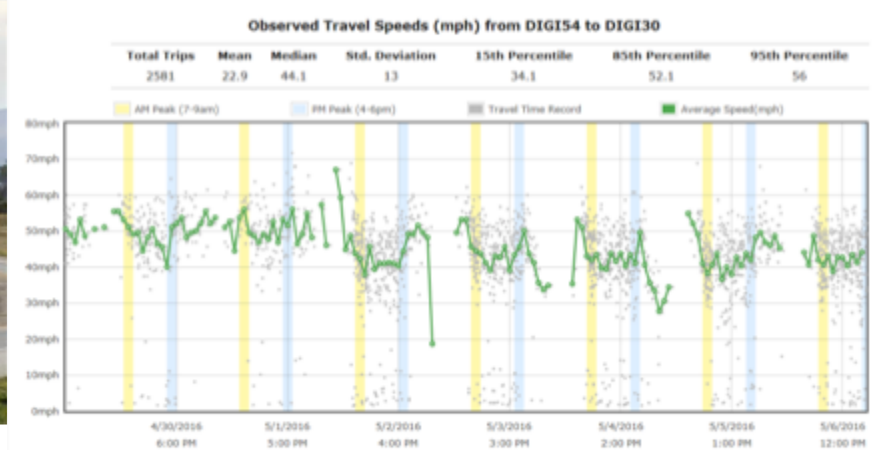
SR 227 Operational Study Objectives

- Establish Short- and Long-Term Investment Priorities
  - Regional Transportation Plan Update
  - STIP Funding – Programmed
  - SLOCOG Sales Tax Measure

May 24, 2016





Joe Johnston - jjohnston@thetribunenews.com

SR 227 Operational Study
Study Team

Kimley»Horn

WALLACE GROUP

rincon

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

RGS Regional Government Services

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

digiWEST

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SR 227 Operational Study
Tonight's Agenda

- Introductions (5 min)
- Power Point Presentation (20 min)
- Corridor Improvement Concepts (10 min)
- Break (10 min)
- Live Polling (40 min)
- Next Steps and Good Night (5 min)

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May 24, 2016

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SR 227 Operational Study Public Involvement Process

- Workshop #1 - November 19, 2015
  - Overview of study and study objectives
  - Receive input in specific issues and concerns
  - Interactive Web-based tool
- Workshop #2 – May 24, 2016
  - Update on Technical Studies
  - Receive input on Corridor Improvement Concepts
  - Next steps

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May 24, 2016

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Caltrans Resurfacing Project

- From Price Canyon Road to 1/2 mile north of Buckley Road
- Schedule revised from December 1, 2015 to May 2016 (weather permitting)
- Lane closures both directions Mon-Thur 8am-4pm and Friday 8pm-1pm. Road work will occur Mon-Thur 7pm-6am.
- Restripe the north leg of SR 227 to allow greater two-stage turn storage refuge for motorists turning left out of Crestmont Drive. Preclude left turns out of Winery driveway - add signage and striping. Completed in December.

Data Collection (January 2016)

- AM/Midday/PM Intersection turn counts (video)
  - Six intersections
- AM/Midday/PM Queue lengths and Gap Acceptance (video)
  - Six intersections (queues)
  - One intersection Gap Acceptance
- 7-Day-24-hr continuous segment counts (hoses)
  - Six segments (SR 227, Los Ranchos Road, Crestmont Drive)
- 4-Months of Travel Speeds and Travel Times (Bluetooth)
  - Six locations (SR 227 and Price Canyon Road)

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Data Collection

Intersection Analysis

- Existing Conditions - Intersection Operations
  - Crestmont Drive and Los Ranchos – LOS F
  - All Other intersections at LOS D
  - > 50 vehicle 95th percentile queues on SR 227 at: Buckley (NB/SB) & Los Ranchos (NB/SB);
  - > 12 vehicle percentile queues: Crestmont (EB) & Los Ranchos (EB)
  - <u>Measured – Crestmont Drive 10 vehicle queue</u>
  - <u>Measured – Kendall Road 5 vehicle queue</u>

- 2035 Intersection Operations
  - Farmhouse Lane and Buckley – LOS F and LOS E
  - > 60 vehicle 95th percentile queues: Buckley (NB/SB) & Los Ranchos (NB/SB);
  - > 15 vehicle 95th percentile queues: Crestmont (EB) & Los Ranchos (EB)

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Intersection Analysis

- Signal Warrant Analysis (Peak Hour Warrant #3)
  - SR 227/Airport Road
    - Does not meet warrants
  - SR 227/Farmhouse Lane
    - 2025 and 2035
  - SR 227/Kendall Road
    - Existing, 2025 and 2035
  - SR 227/Crestmont Drive
    - Existing, 2025 and 2035

- Accident Warrant Analysis (Peak Hour Warrant #7)
  - No intersections met warrant

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Bicycle LOS Analysis Intersections

- SR 227 & Airport (LOS C-D)
- SR 227 & Farmhouse (LOS C-D)
- SR 227 & Kendall (LOS C-D)
- SR 227 & Buckley (LOS C or Better except for East and West Leg (LOS D)
- SR 227 & Crestmont (LOS F)
- SR 227 & Los Ranchos (LOS C or better)

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Pedestrian LOS Analysis Intersections

- SR 227 & Airport (LOS F)
- SR 227 & Farmhouse (LOS F)
- SR 227 & Kendall (LOS F)
- SR 227 & Buckley (LOS C or Better)
- SR 227 & Crestmont (LOS F)
- SR 227 & Los Ranchos (LOS C or better)

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Segment Analysis

- Existing Conditions – Segment Operations
  - AM Peak Hour – Northbound: LOS E
  - AM Peak Hour – Southbound: LOS C-D
  - PM Peak Hour – Northbound: LOS C-D
  - PM Peak Hour – Southbound: LOS E
- Future 2035 Conditions – Segment Operations
  - AM Peak Hour – Northbound: LOS E
  - AM Peak Hour – Southbound: LOS C-D
  - PM Peak Hour – Northbound: LOS D-F
  - PM Peak Hour – Southbound: LOS E-F

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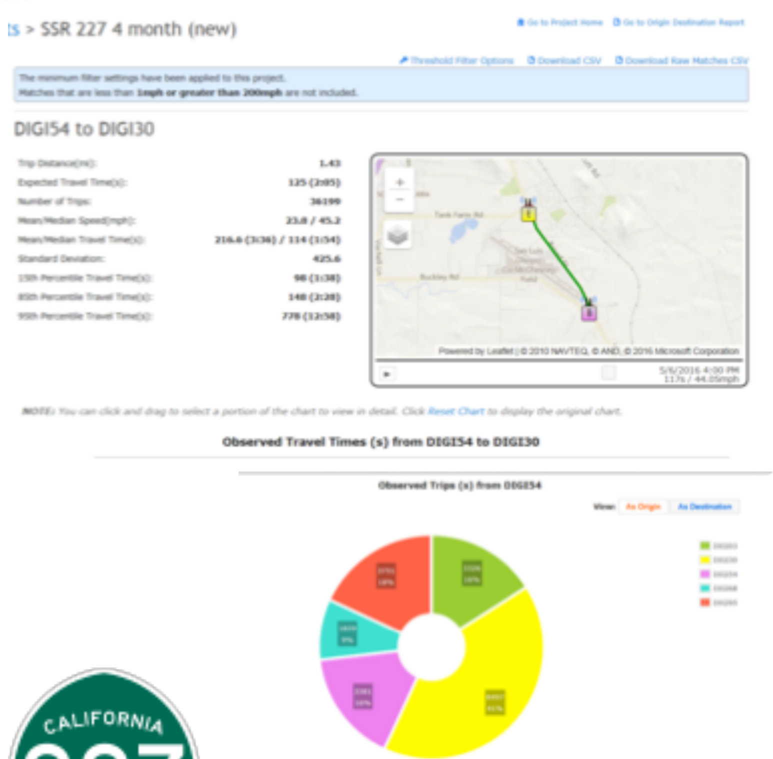
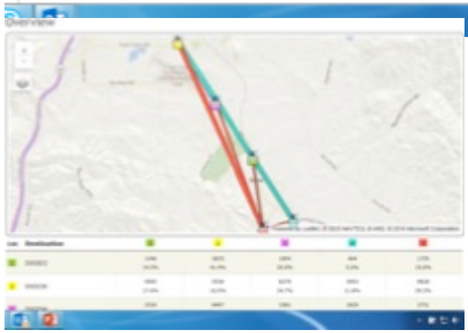
Safety Analysis

SWITRS (2012-2014) and TASAS (2011-2013) Data

- Biddle Ranch to Los Ranchos Highest Crash Rate: 0.41 MVM
- Los Ranchos to Crestmont 2nd Highest Crash Rate: 0.35 MVM
  - Intersection of SR 227/Crestmont – crash rates exceed statewide average for similar facilities
- Dominant collision type: rear-end (70% of all collisions)
- 25 total collisions between Biddle and Kendall (11 injury; 14 persons injured; 21 multi-vehicle collisions; 7 occurred at night; 3 under wet conditions)
- No fatal crashes in the study corridor (2011-2014)

Travel Speeds and Reliability Analysis (Bluetooth)





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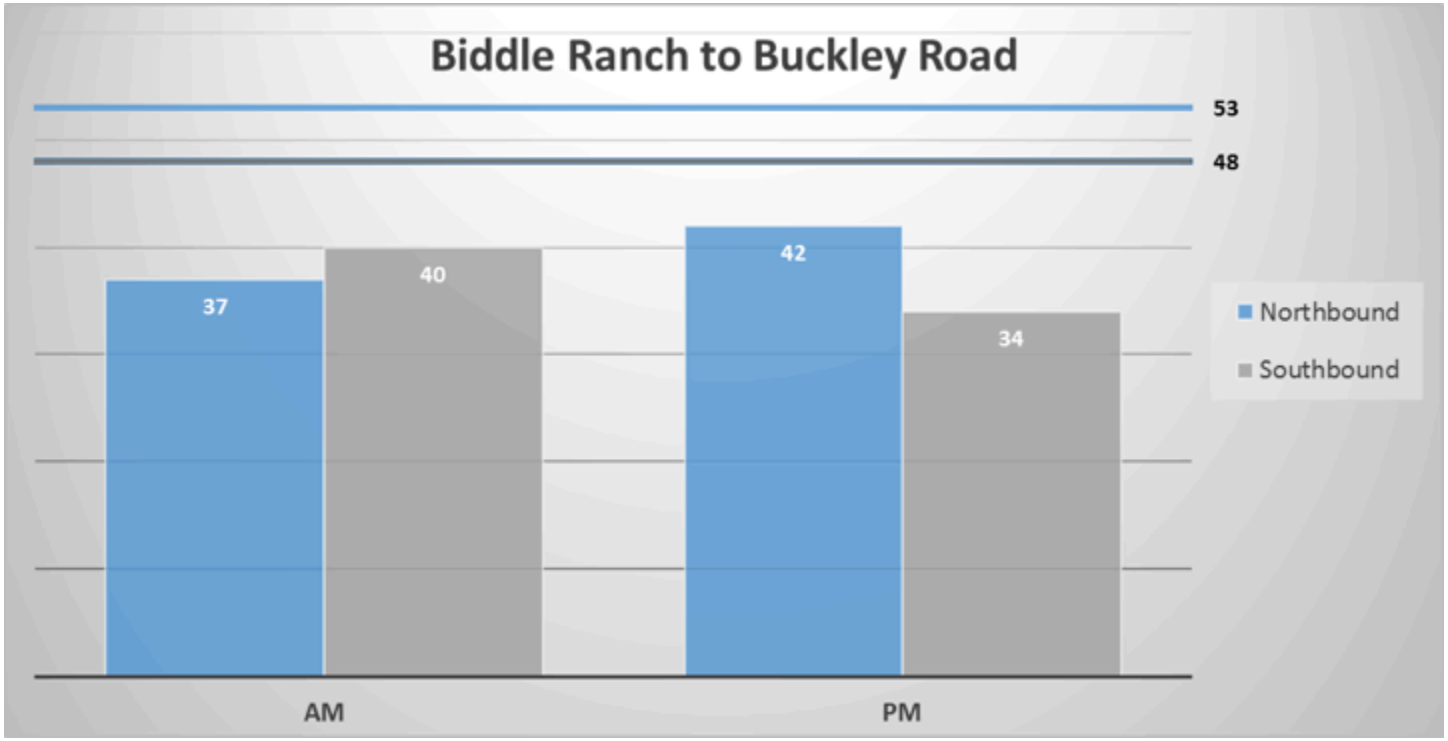
Travel Speeds and Reliability Analysis (Bluetooth)



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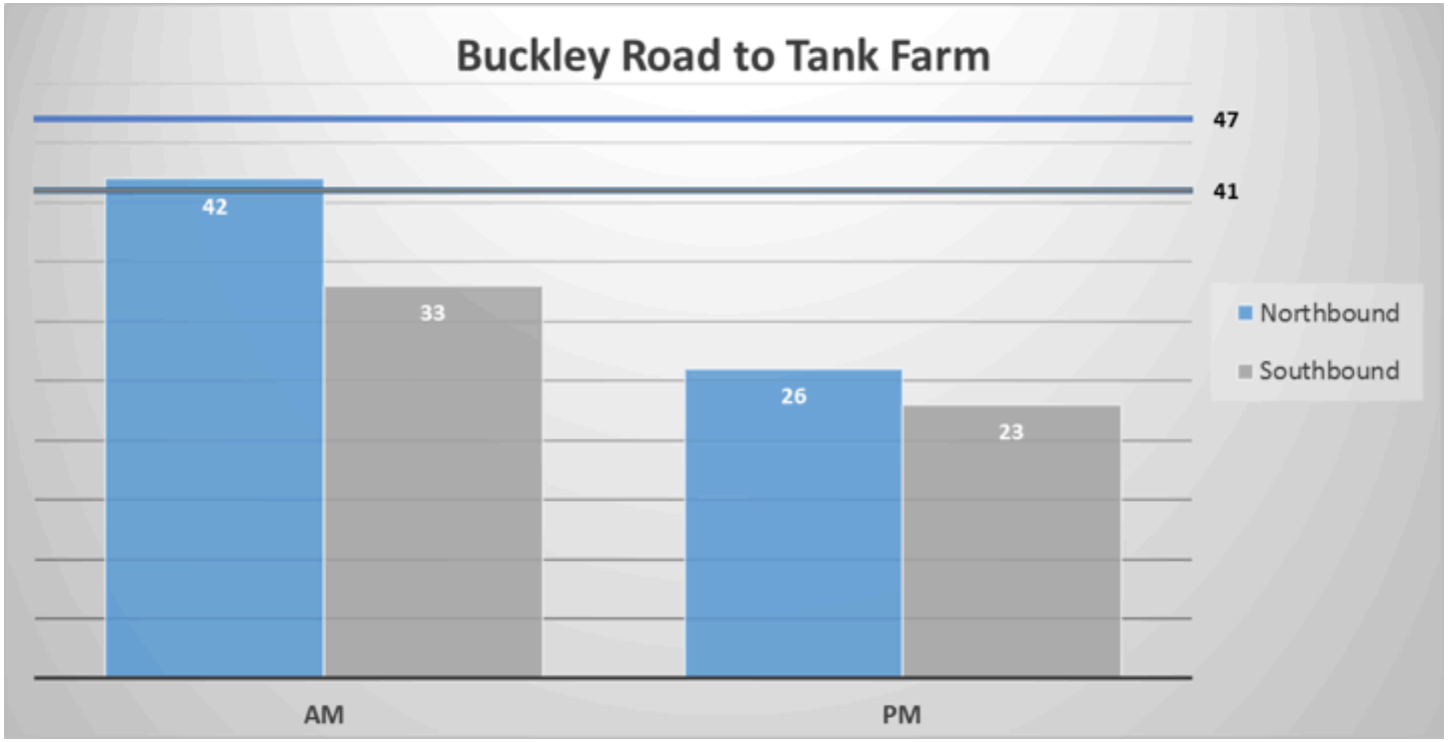

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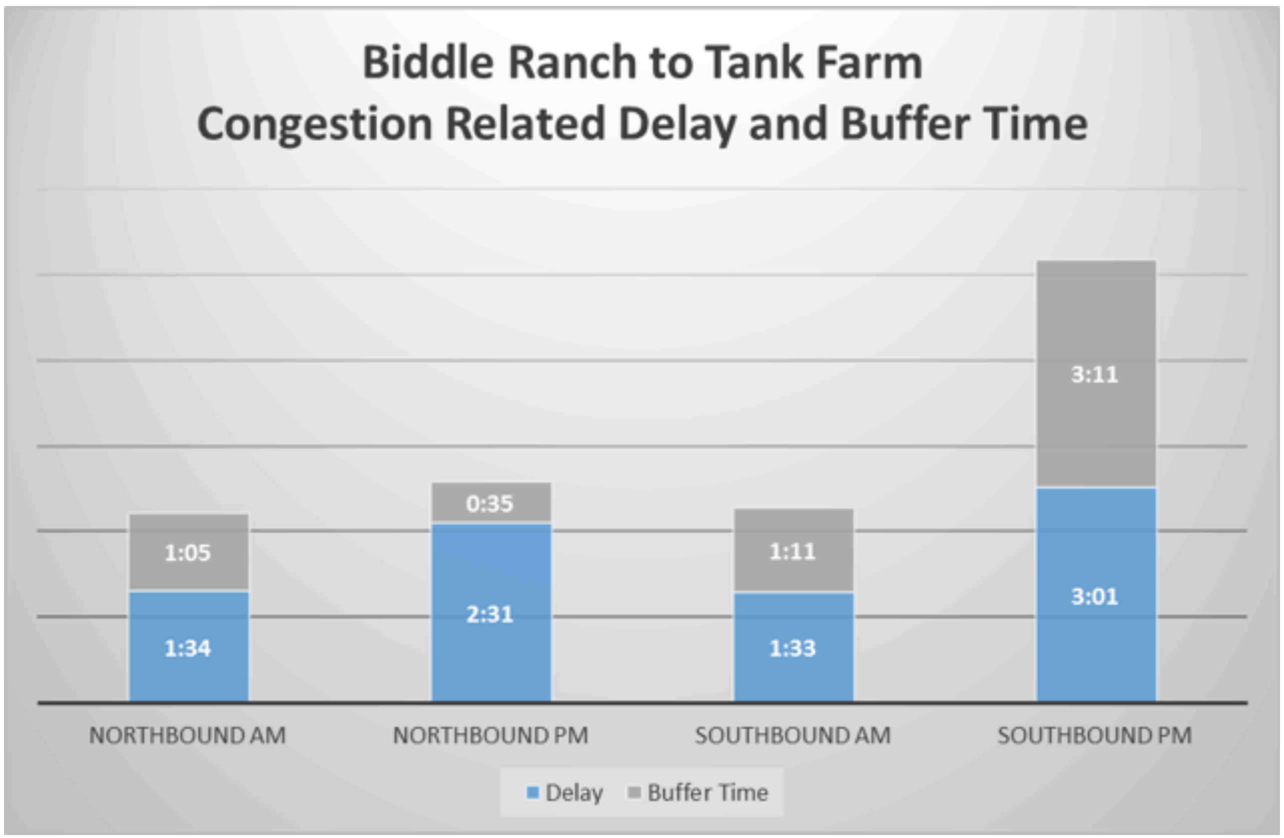

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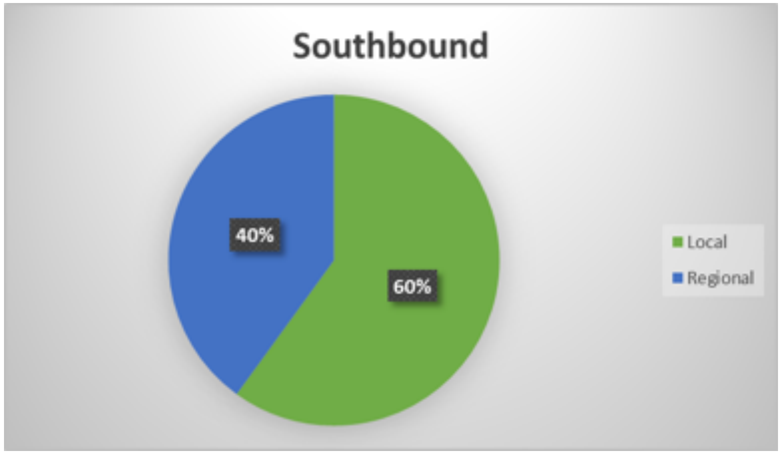
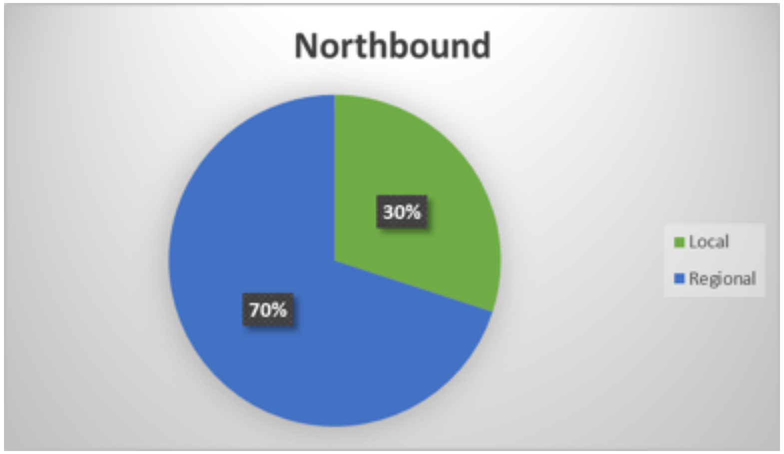
Travel Patterns (Bluetooth)

- Travel between City of San Luis Obispo and Five Cities
  - Price Canyon is preferred route over SR 227: 1.54 ratio

- Local vs. Regional Traffic Using SR 227





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Neighborhood Access

- Secondary Access for Crestmont Community
  - 95 vehicles exiting and 42 entering Crestmont Drive (AM Pk Hr)
  - 58 vehicles exiting and 90 entering Crestmont Drive (PM Pk Hr)

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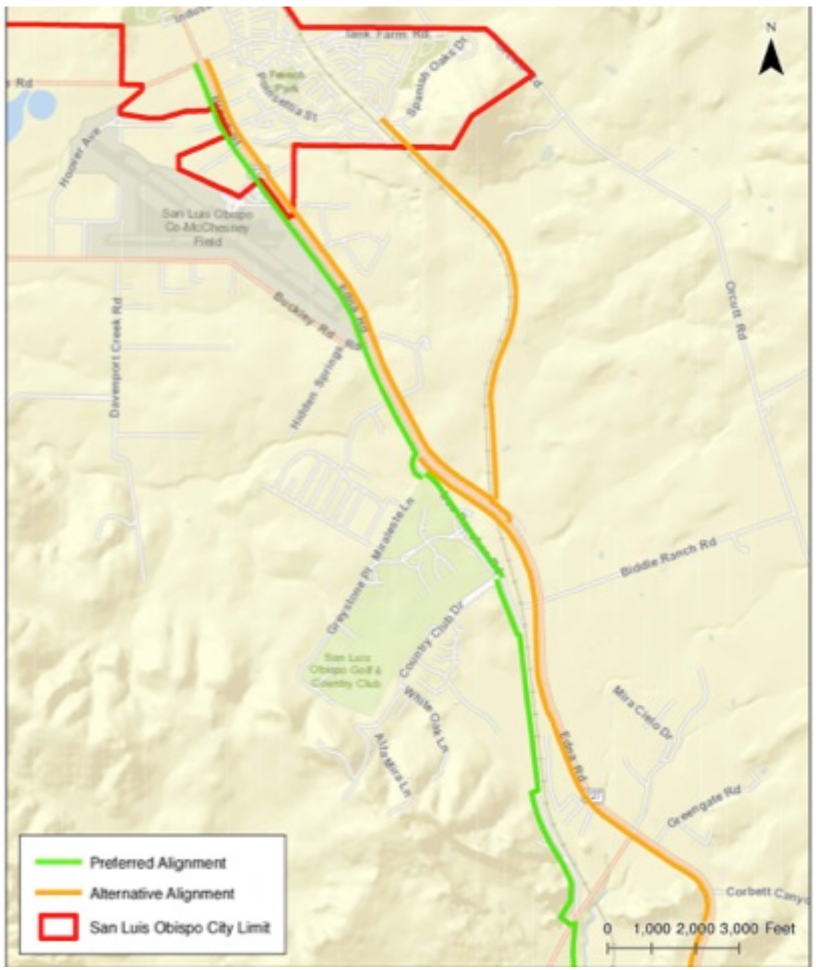
Multimodal Analysis

Edna-Price Canyon Multi-purpose Trail Preferred Alignment



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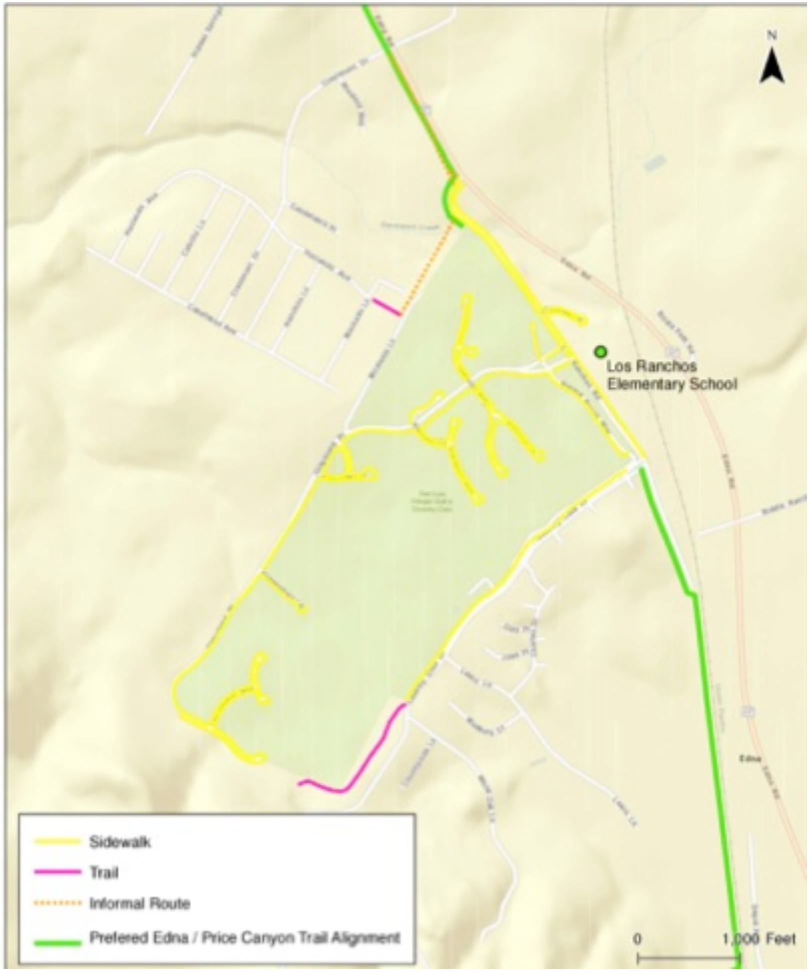
Multimodal Analysis

Neighborhood and School Pedestrian Connectivity



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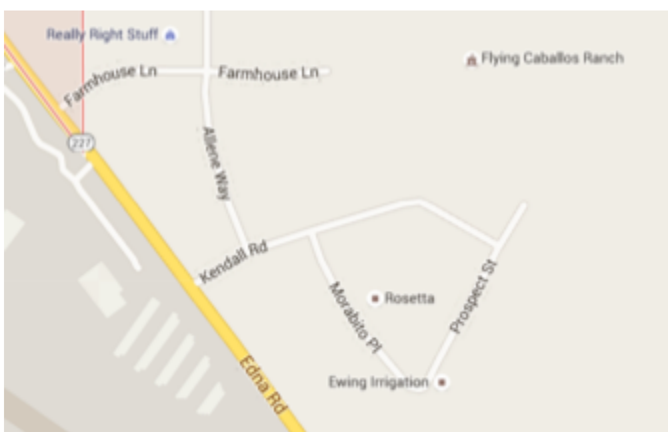
Multimodal Analysis

- Remote vs. Fringe Park-and-Ride Lot
  - Only 2% of Corridor Residents work within the Corridor (10 of 422 – Source: Census)
  - 43% Commute to the City of San Luis Obispo (180)
  - 9.5% Commute to Santa Maria (40)
  - Most commute less than 10 miles to work



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Widen & Signalize Corridor Concept

- Pinch off access from Airport Drive – convert Farmhouse Road to four-legged intersection.
- Signalize, synchronize and channelize intersections at Farmhouse Lane, Buckley, Crestmont, and Los Ranchos.
- Widen SR 227 to provide two through lanes in each direction (Farmhouse Road to s/o Los Ranchos Road).
- Restrict access to allow RI-RO-LI at Kendall Road and driveways.
- Encourage consolidation of private driveways.
- Construct Edna-Price Canyon Trail from Crestmont to Aero Drive – if widening can occur to the east – Preferred Alignment is preserved; if not, potential need for selecting an alternative alignment.

Roundabout Corridor Concept

- Pinch off access from Airport Drive – convert Farmhouse Road to four-legged intersection.
- No widening of mainline SR 227 – convert intersection control to dual lane roundabouts at Farmhouse Lane, Buckley, Crestmont, and Los Ranchos.
- Lower design speeds through roundabouts (traffic calming)
- Restrict access to allow RI-RO-LI at Kendall Road and all driveways.
- Encourage consolidation of private driveways.
- Construct Edna-Price Canyon Trail from Crestmont to Aero Drive consistent with Preferred Alignment – west of SR 227.

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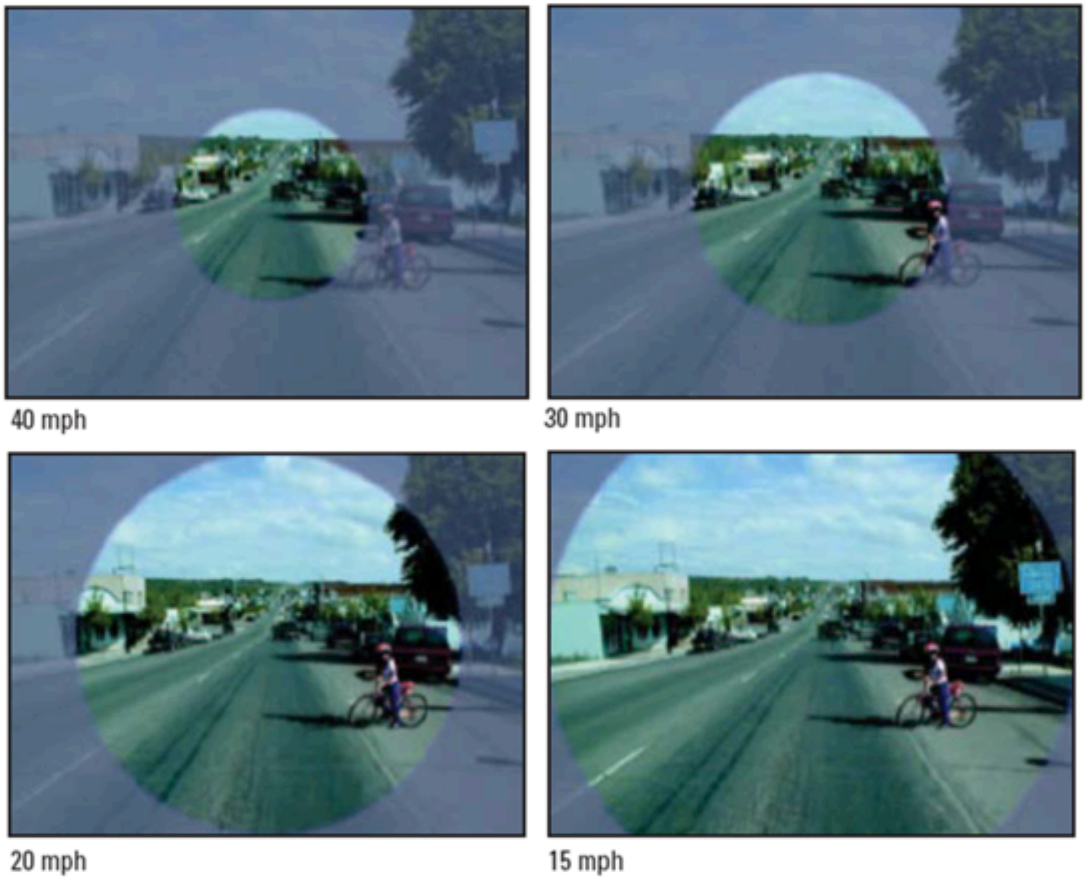
Roundabout Concept

Roundabout Characteristics



40 mph 30 mph 20 mph 15 mph

Figure 5.9. Driver focus at different speeds (Source: TGM 1999)

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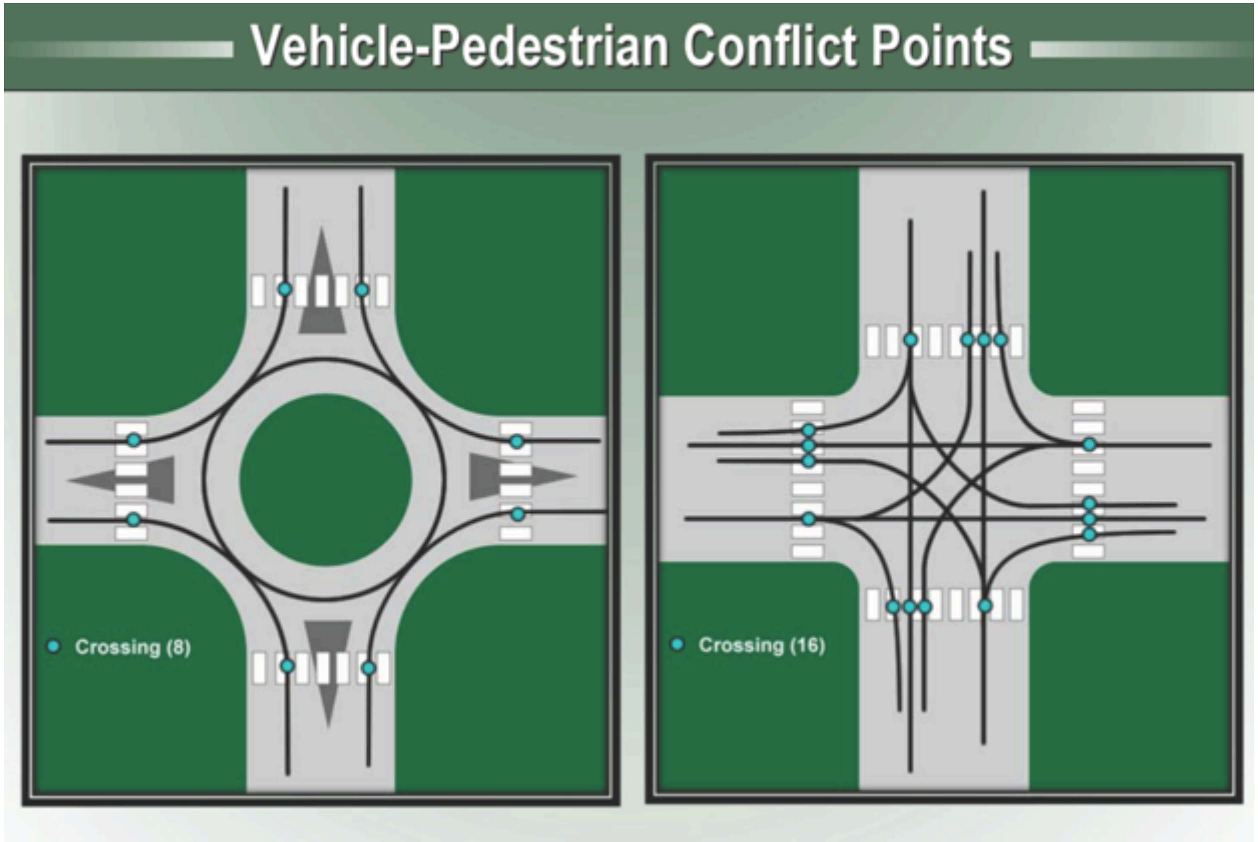
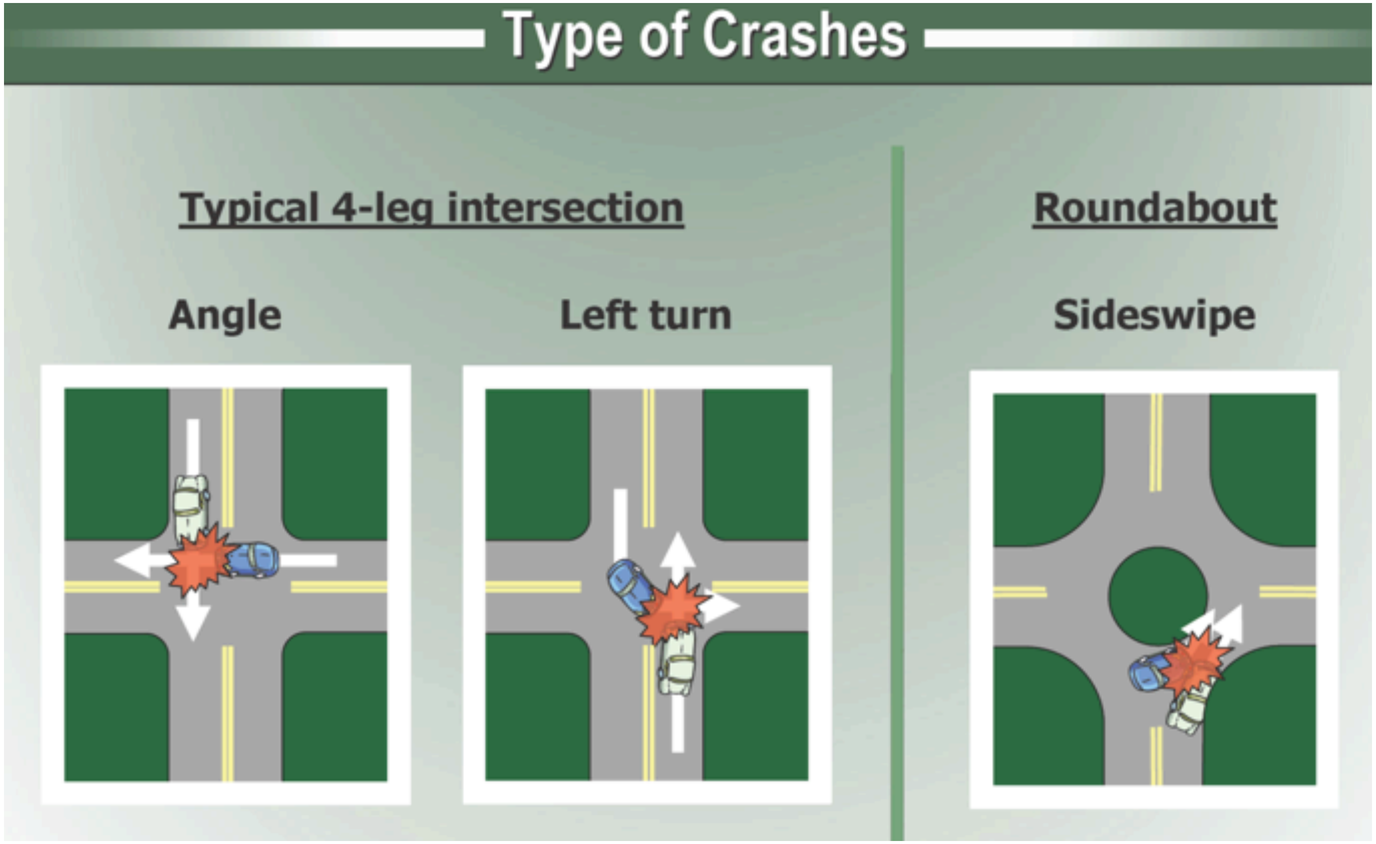
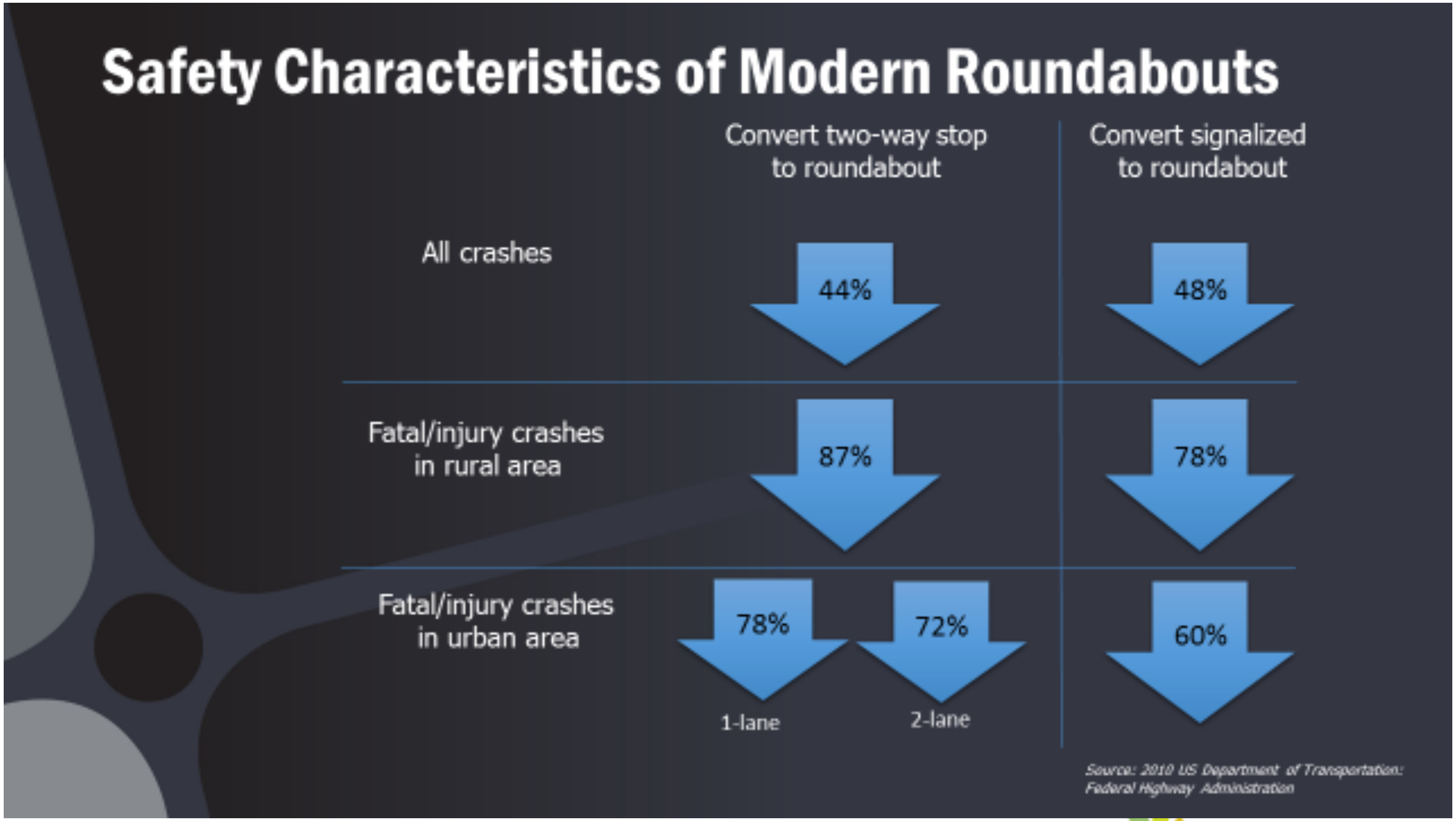
Roundabout Characteristics



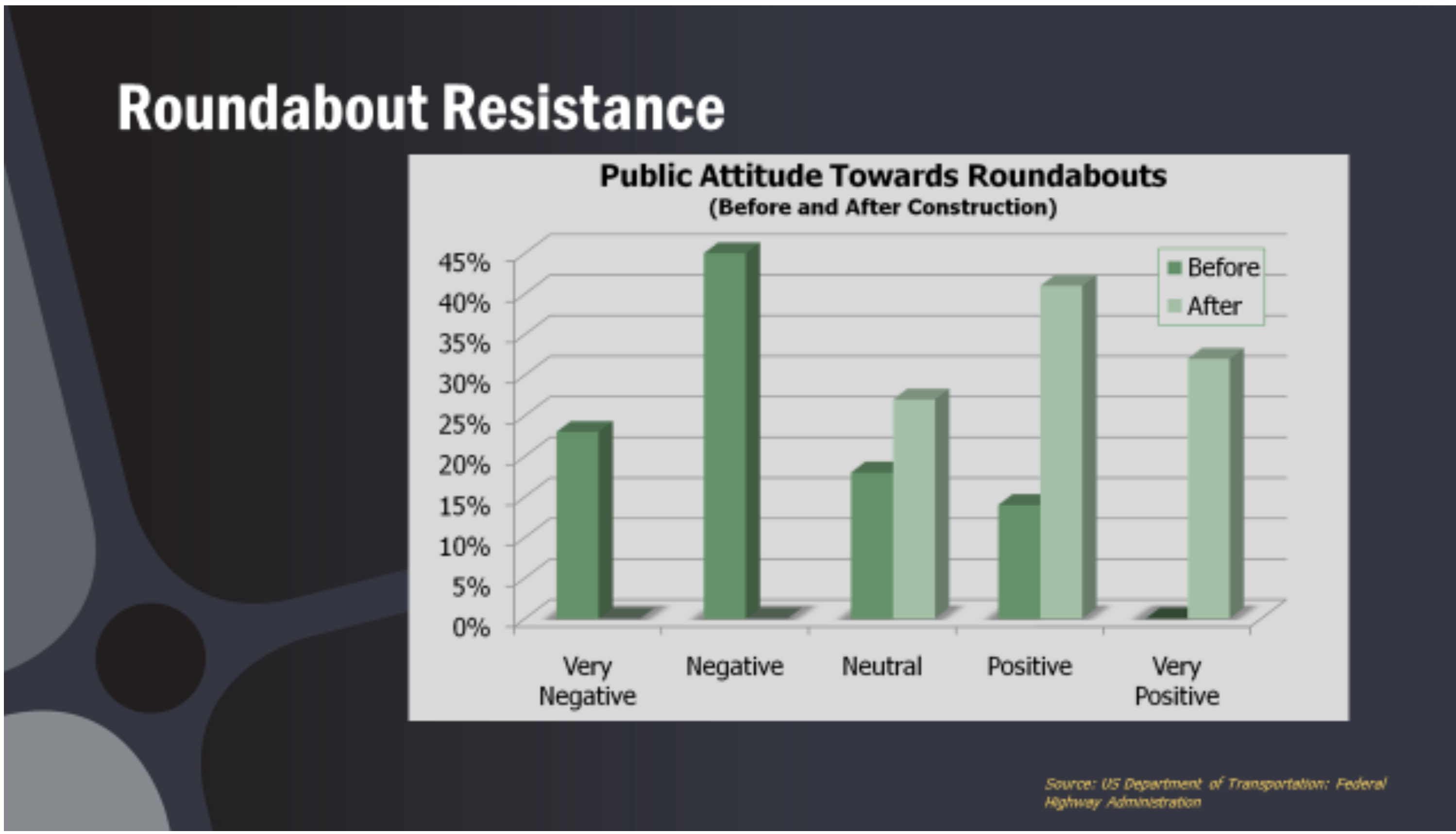
Roundabout Characteristics



Roundabout Characteristics



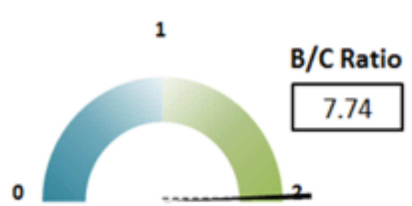
Roundabout Characteristics



Next Steps: Intersection Control Evaluation

- What is most cost-effective corridor concept?
  - Widen and Signalize vs. Roundabout Corridor

	Preferred Intersection Control by Performance Measure					
Study Intersection	Safety	Delay	Ops. & Maint.	Emission	Capital Cost	B/C
San Miguel Canyon Road at Castroville Boulevard						
Laureles Grade at Carmel Valley Road				EQUAL		
Highway 68 at Corral de Tierra						



Recommendation: *Based on the Life Cycle Benefit Cost ratio*	**Roundabout**

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Next Steps
Benefit – Cost Analysis

- How will solutions be prioritized?

Travel Time & Buffer Savings
Reduce VMT
Enhance Safety
Emissions
Health

Construction
Capital Support
Right-of-Way

Estimated $ Spent

Policy Consistency
Environmental Sensitivity
Community Support
Social Equity
Ancillary Benefits

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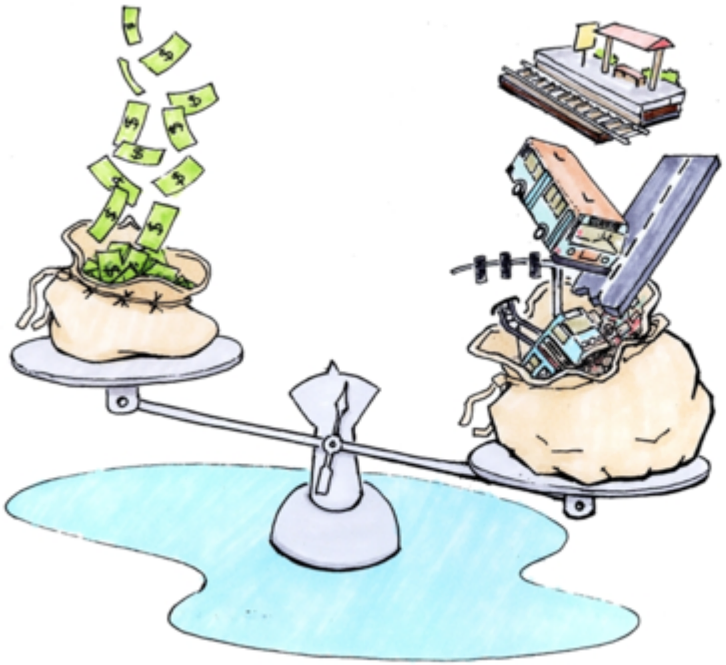
Next Steps: Environmental Screening

- Widen and Signalize Corridor vs. Roundabout Corridor

Next Steps:
Change of Ownership

- Should the County take over management and maintenance of SR 227 from Caltrans?
- How much would it cost??



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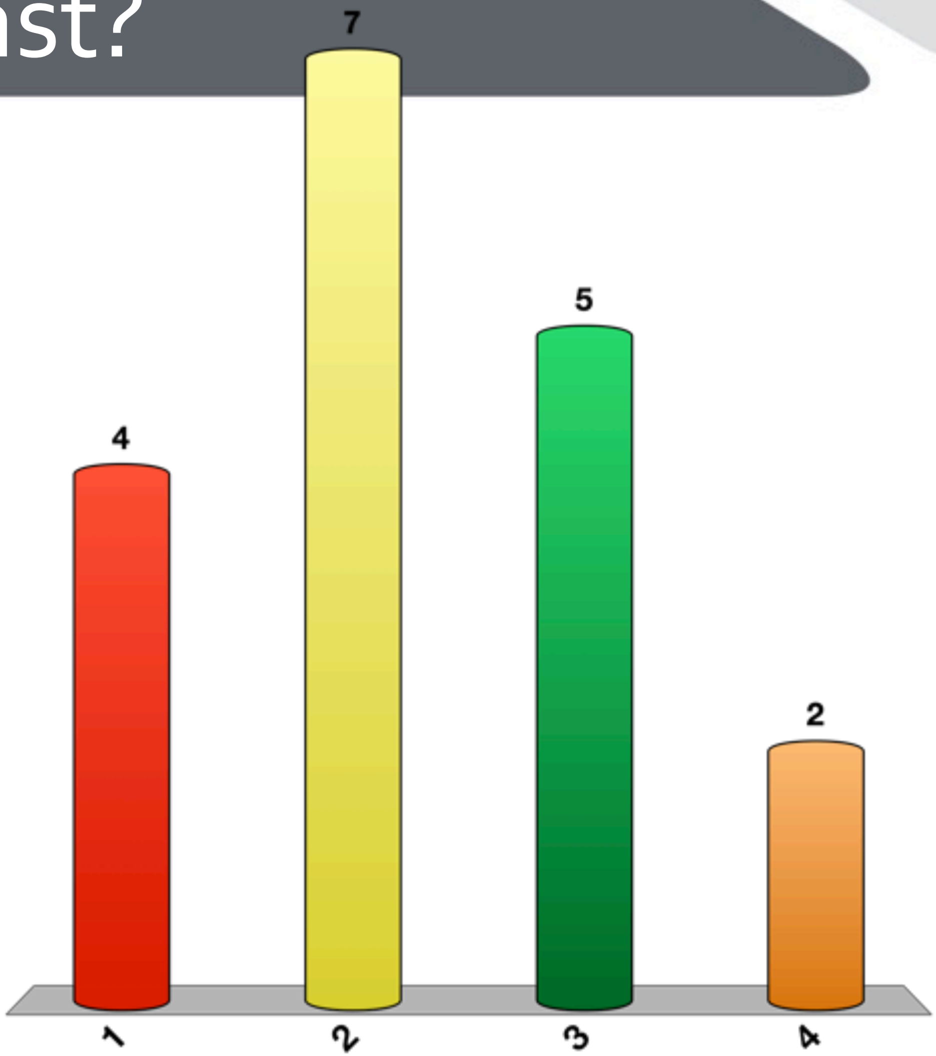
Short Intermission:
Live Polling Begins in 10 min.

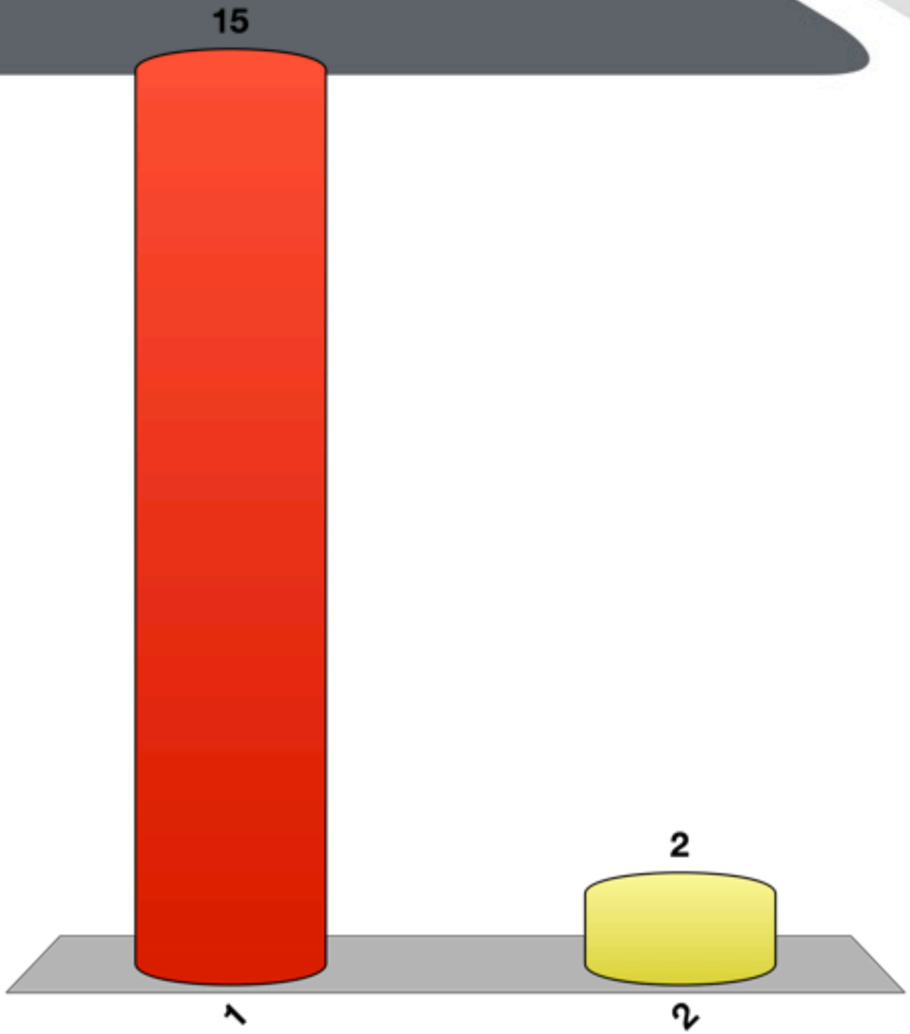
How many public workshops have you attended in the past?

1. This is my first public workshop
2. A couple
3. I attend them regularly
4. I am a meeting machine!



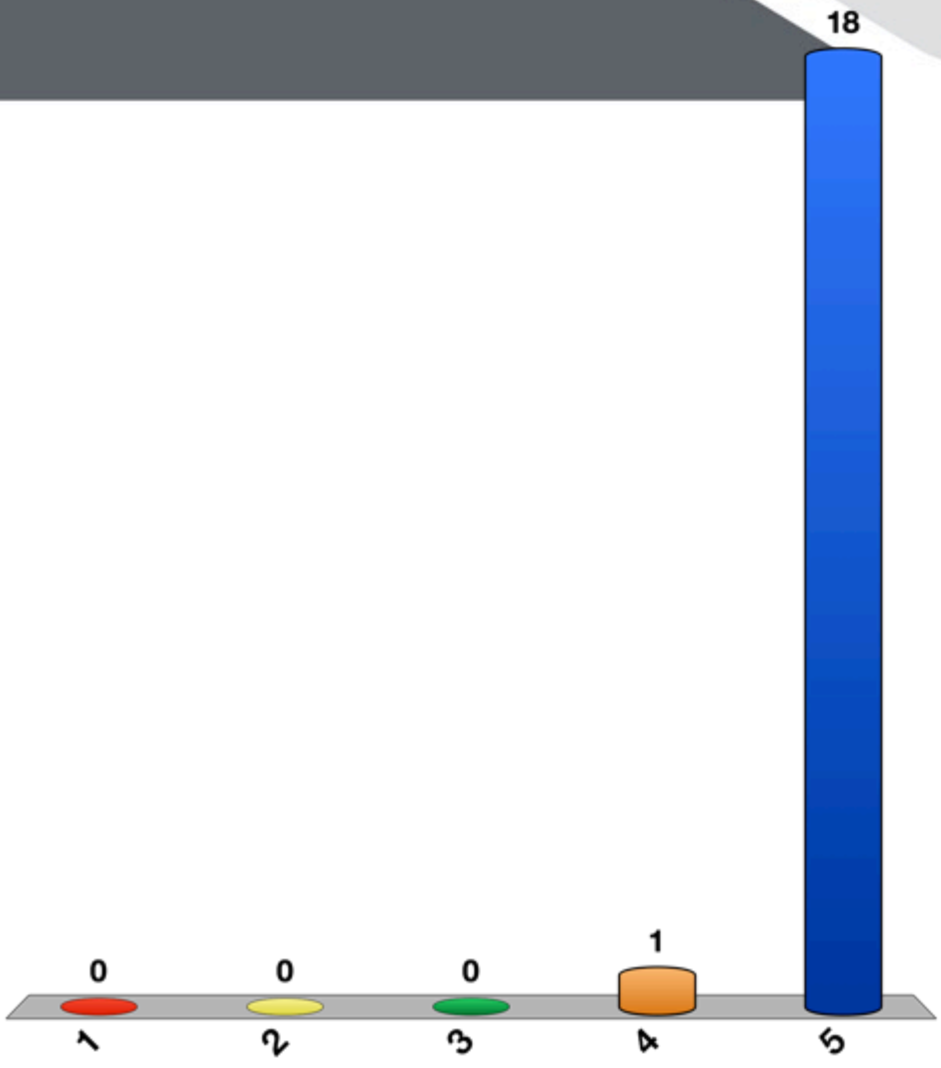
Did you attend our first SR 227 workshop back in November?

1. Yes
2. No



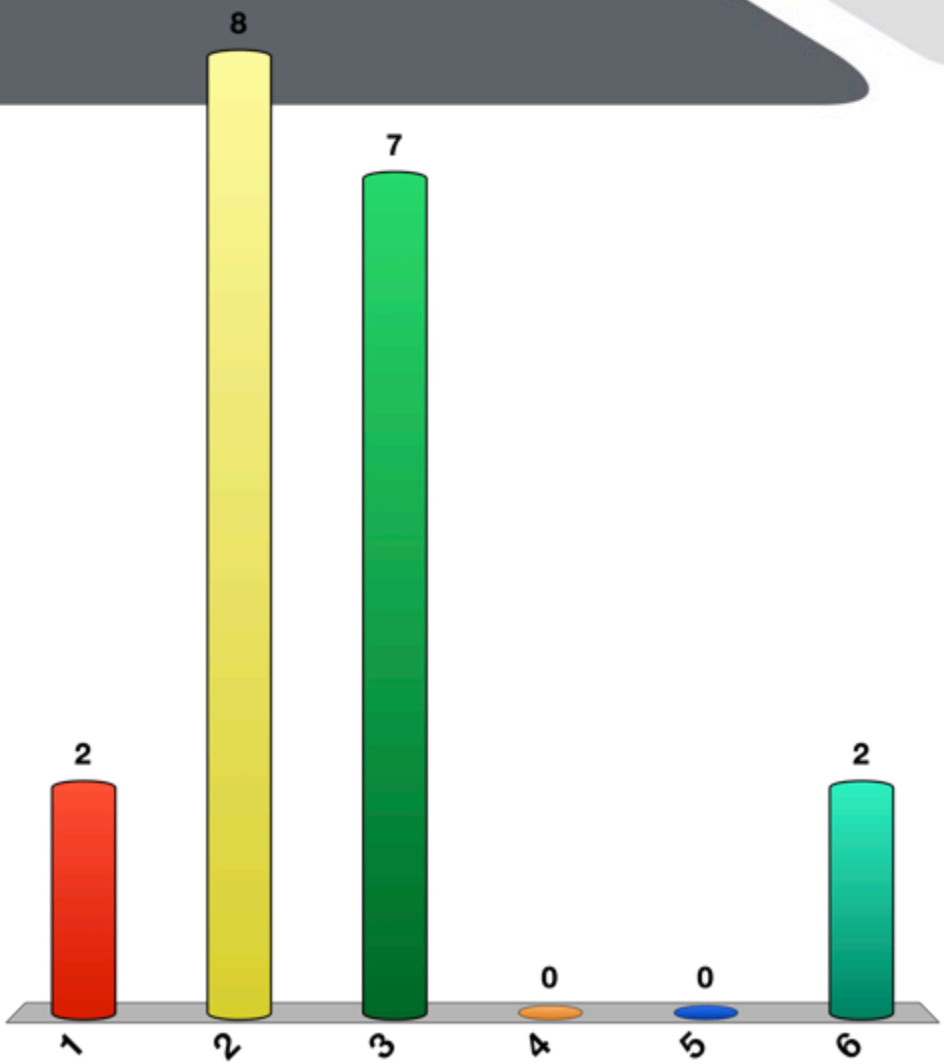
Which of these is MOST important to you tonight?

1. Getting home in time the last hour of “The Voice”
2. Getting home in time to watch the Stanley Cup Playoffs
3. Staying awake for the whole meeting
4. Psyching up for public comments
5. Weighing in on the future corridor concept for SR 227



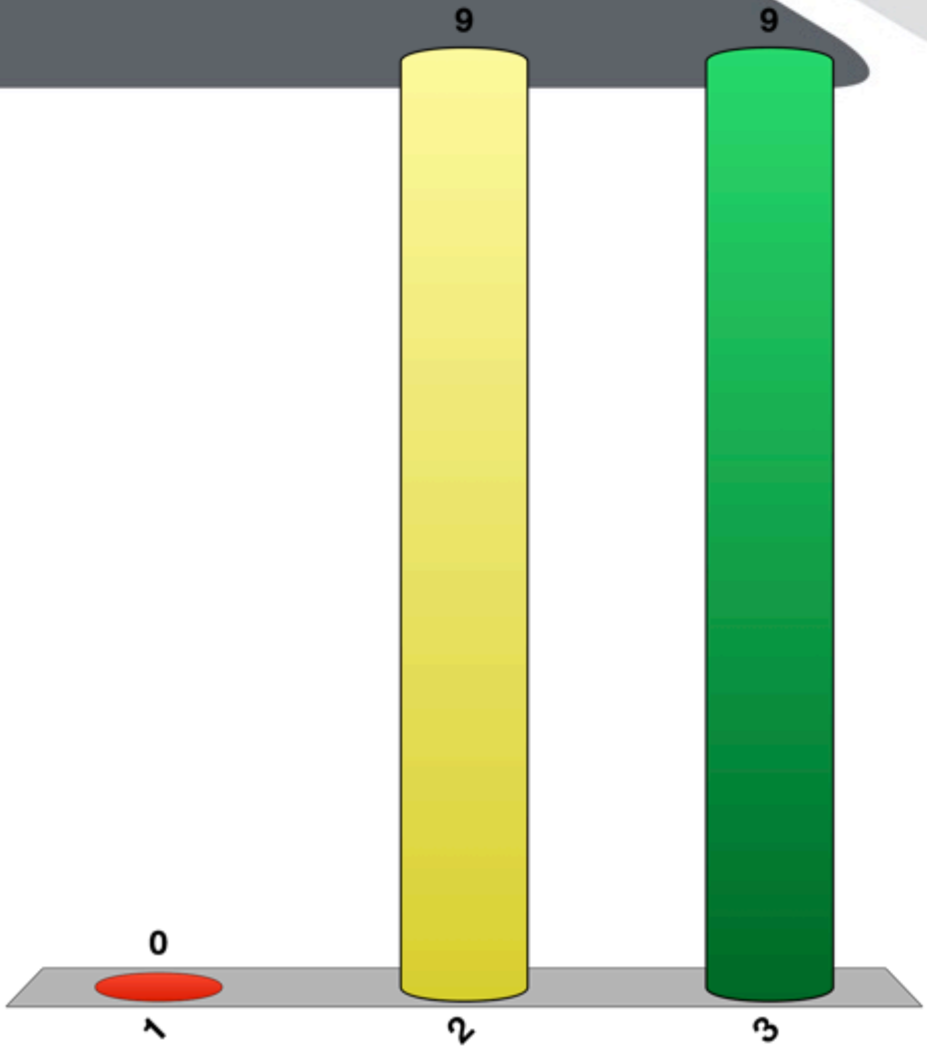
Where do you live?

1. City of San Luis Obispo
2. Unincorporated Crestmont Community
3. Unincorporated Los Ranchos Area Community
4. Along SR 227 – with driveway access
5. Five Cities Area
6. Other



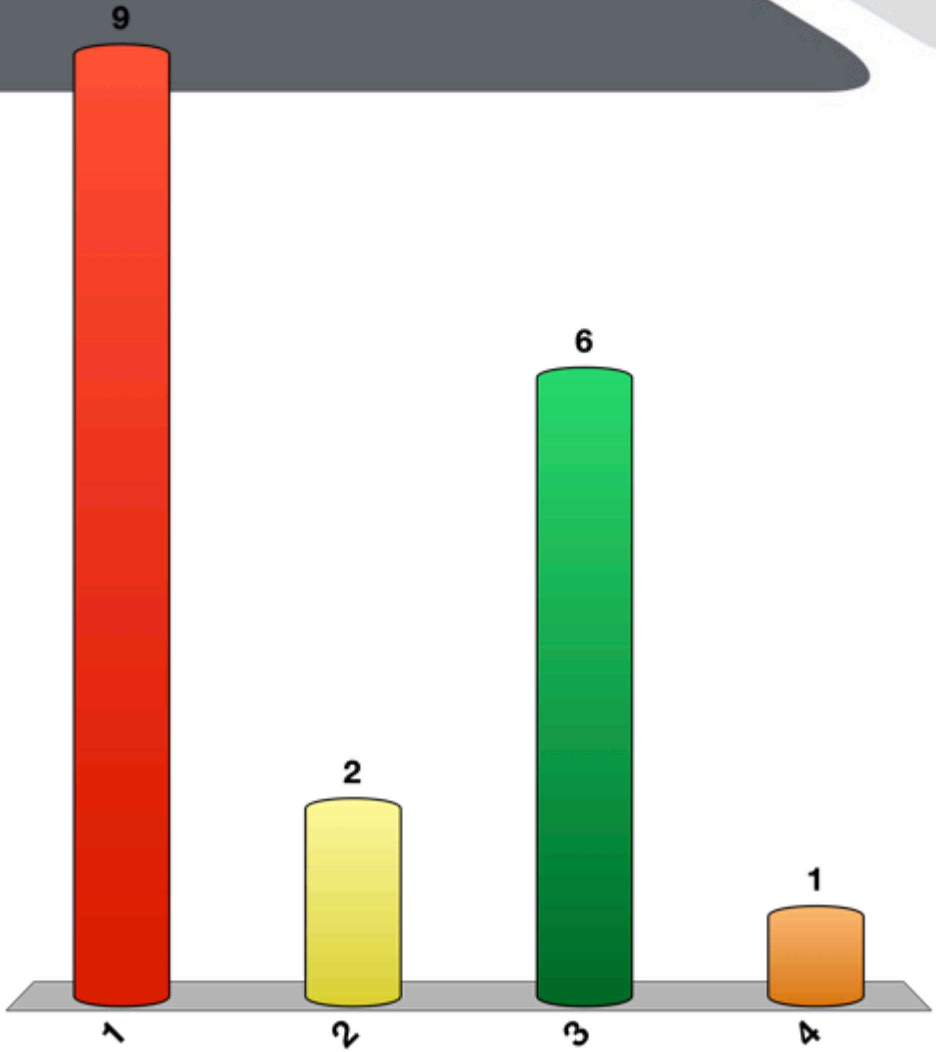
Regarding the SR 227 Rehab Project, what is your feedback on the restriping and signage performed in December?

1. Problem solved – thank-you!
2. It has improved safety for motorists entering-exiting Crestmont Drive but a longer-term fix is still needed.
3. It hasn't helped.



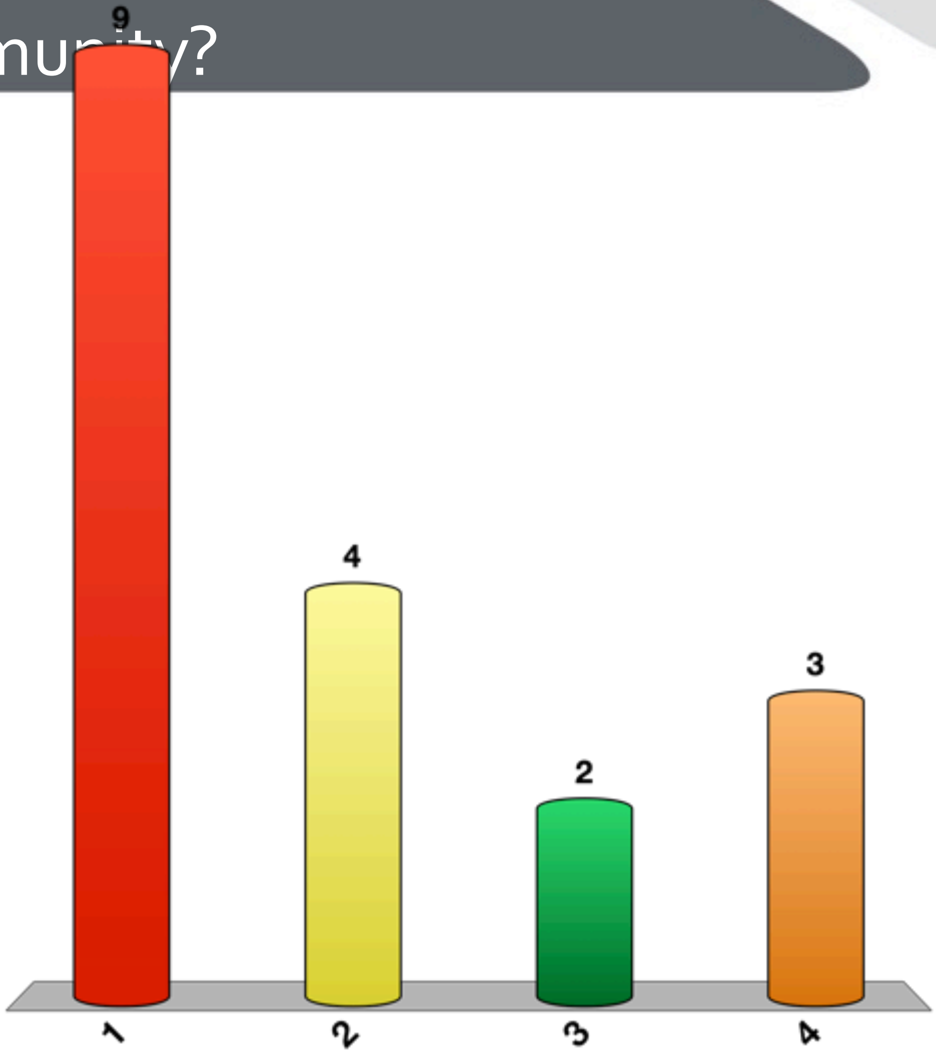
Would you support the proposed Edna-Price Canyon Multi-Purpose Trail combined with improvements to SR 227?

1. Yes
2. No
3. Don't know
4. No opinion



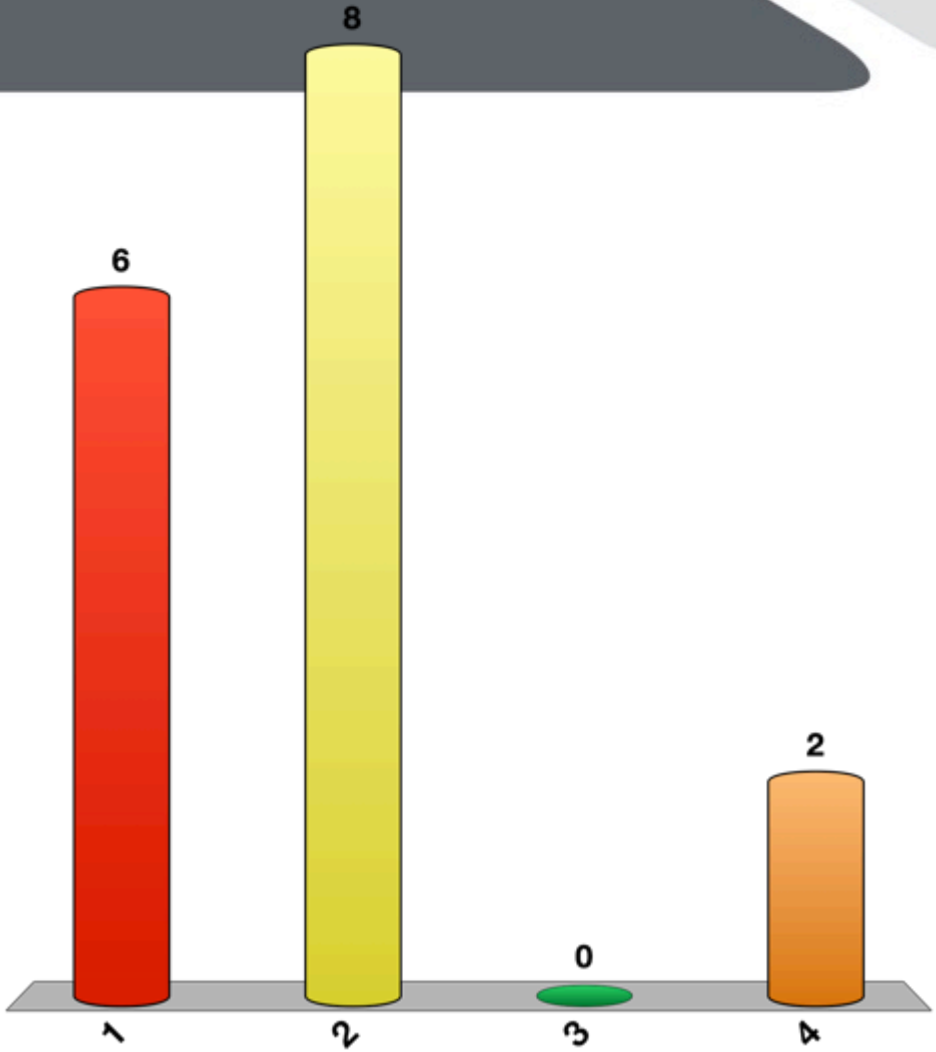
If combined with traffic calming treatments to discourage cut-through traffic would you support providing secondary access to the Rolling Hills (Crestmont) community?

1. Yes
2. No
3. Don't know
4. No opinion



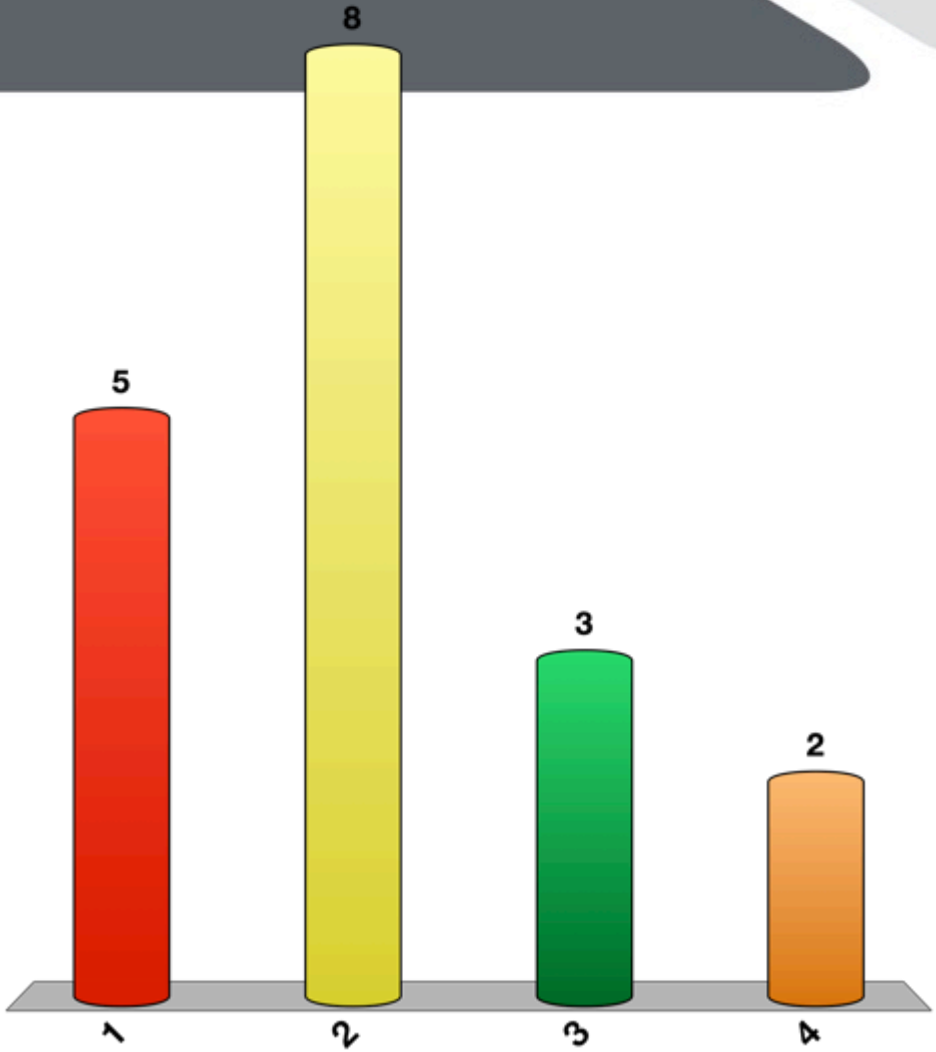
Would you support providing fixed route transit service along SR 227 from the City of San Luis Obispo as far south as Los Ranchos?

1. Yes
2. No
3. Don't know
4. No opinion



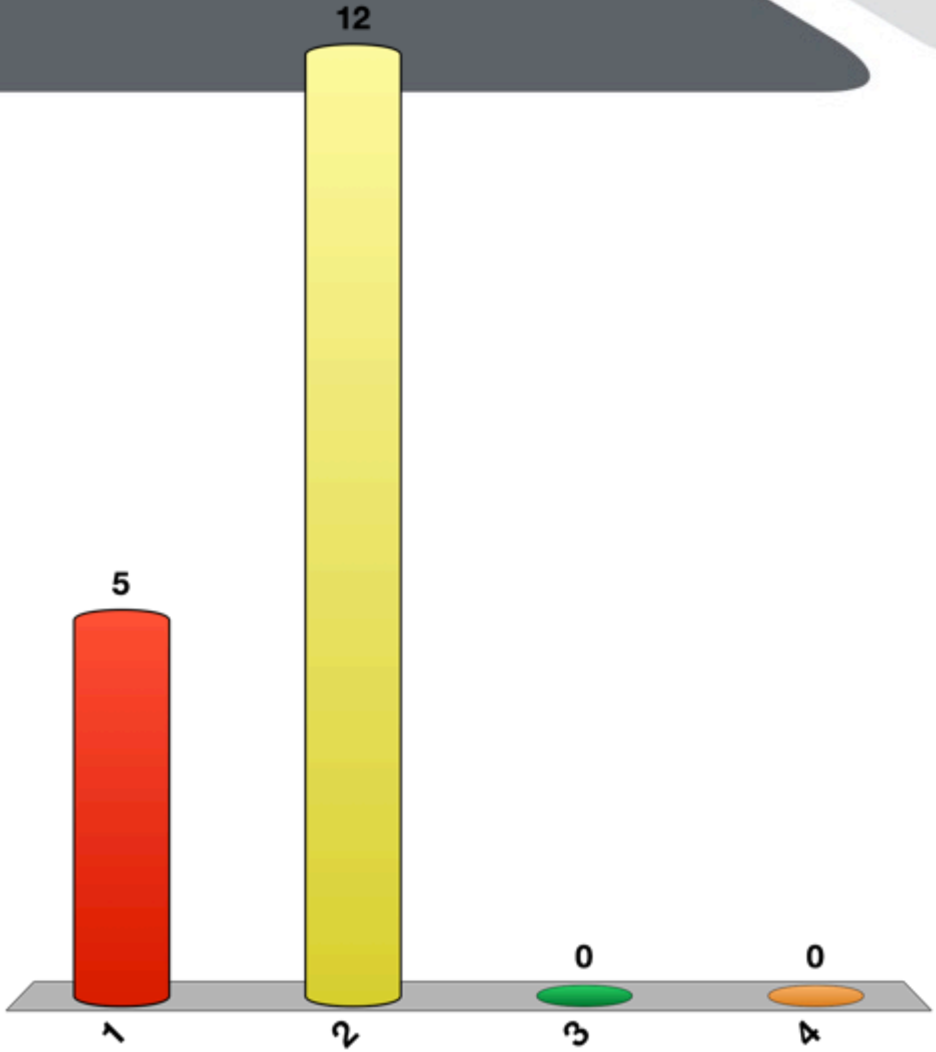
Would you support development of either a remote or fringe park-and-ride lot on the north end of the corridor (near Kendall Road)?

1. Yes
2. No
3. Don't know
4. No opinion



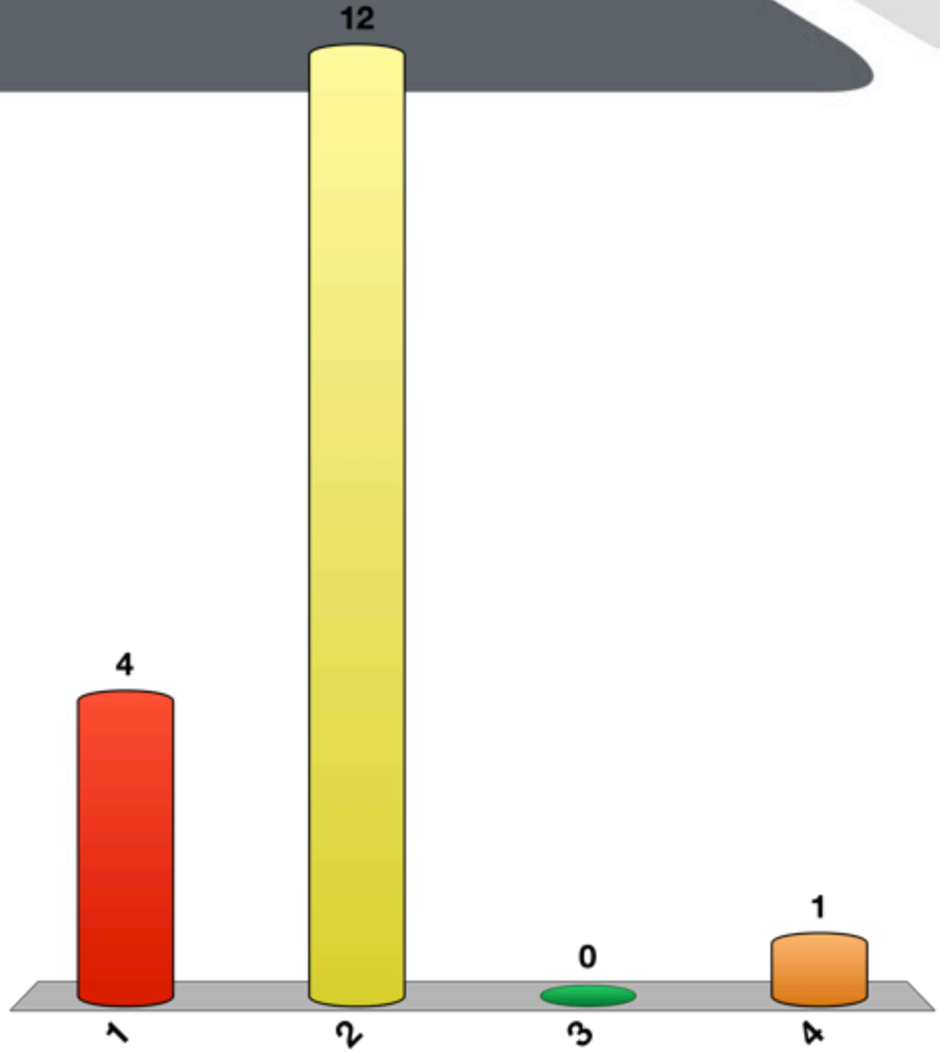
Would you support reduced speeds on SR 227 between Farmhouse Lane and Los Ranchos?

1. No
2. Yes
3. No Opinion
4. Don't know



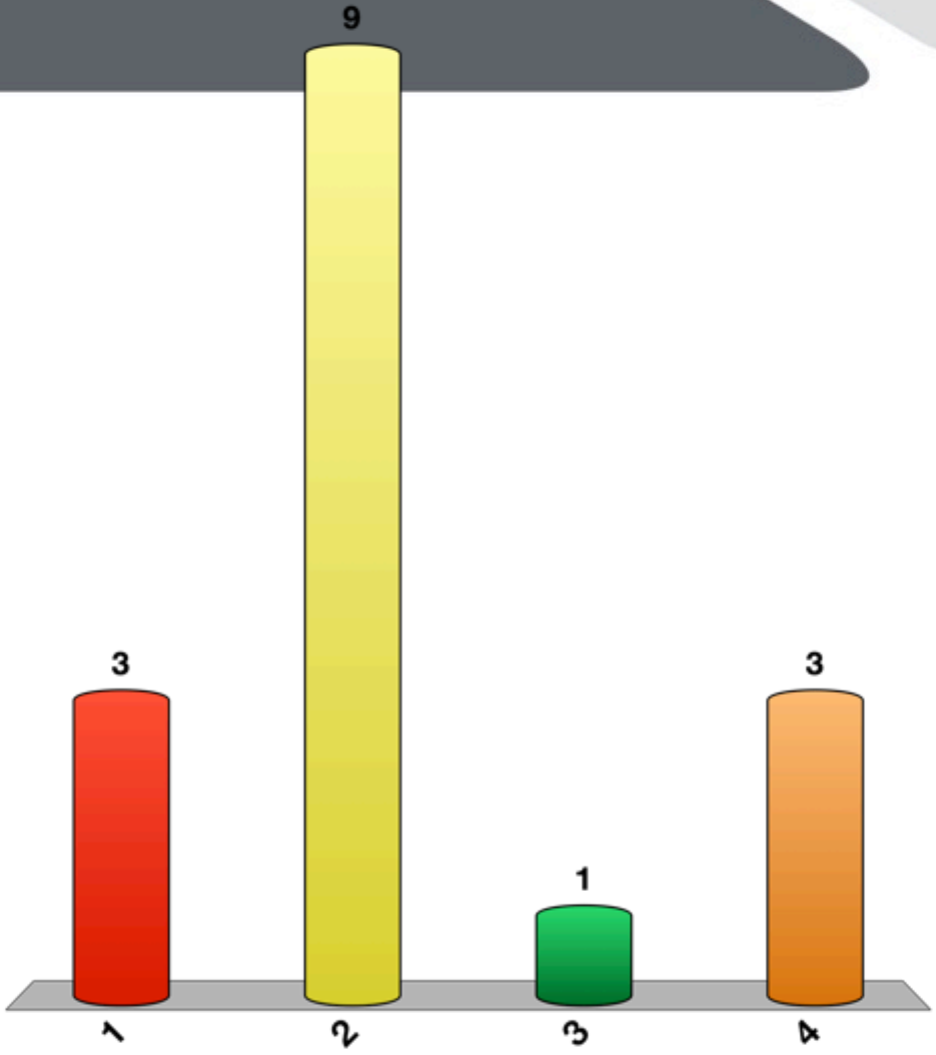
Would you support restricting turn movements to right-in, right-out and left-in at Kendall Road and at private residential and commercial driveways?

1. No
2. Yes
3. No Opinion
4. Don't know



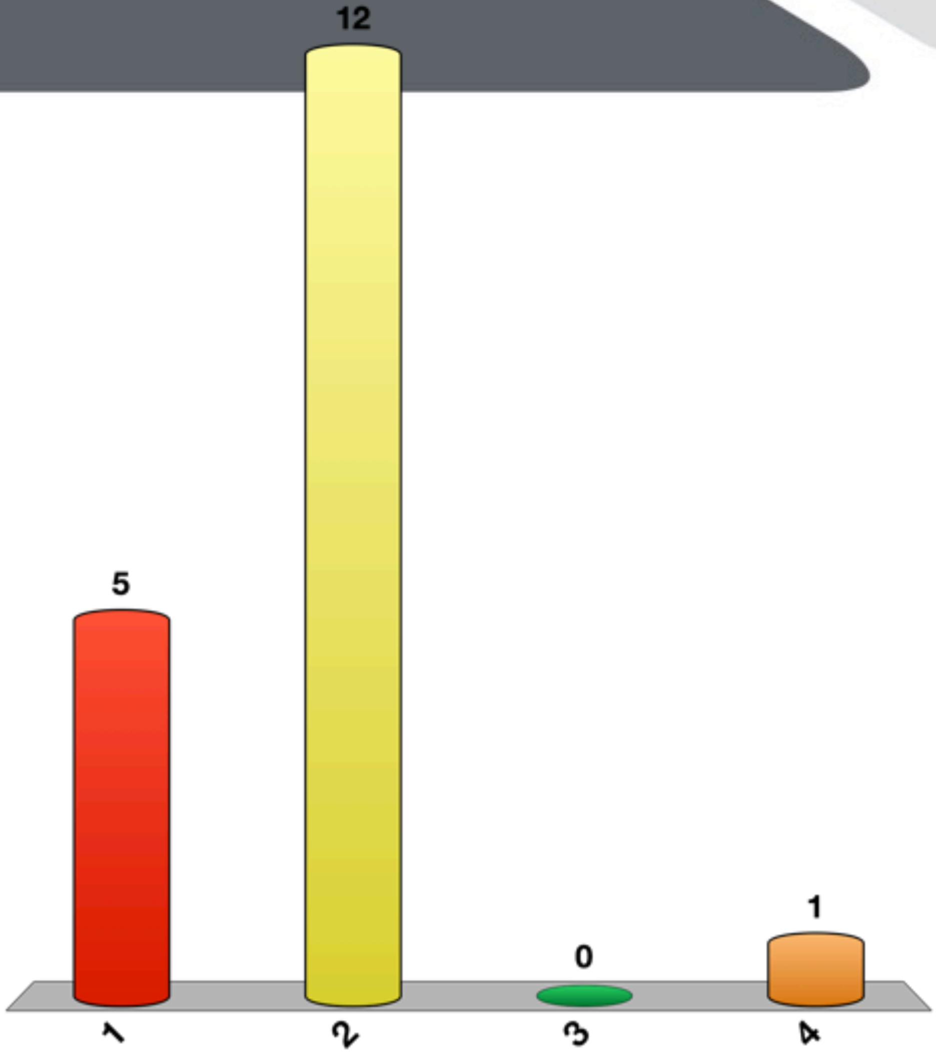
Would you support a roundabout at Farmhouse Lane, Buckley, Crestmont and Los Ranchos?

1. No
2. Yes
3. No Opinion
4. Don’t know



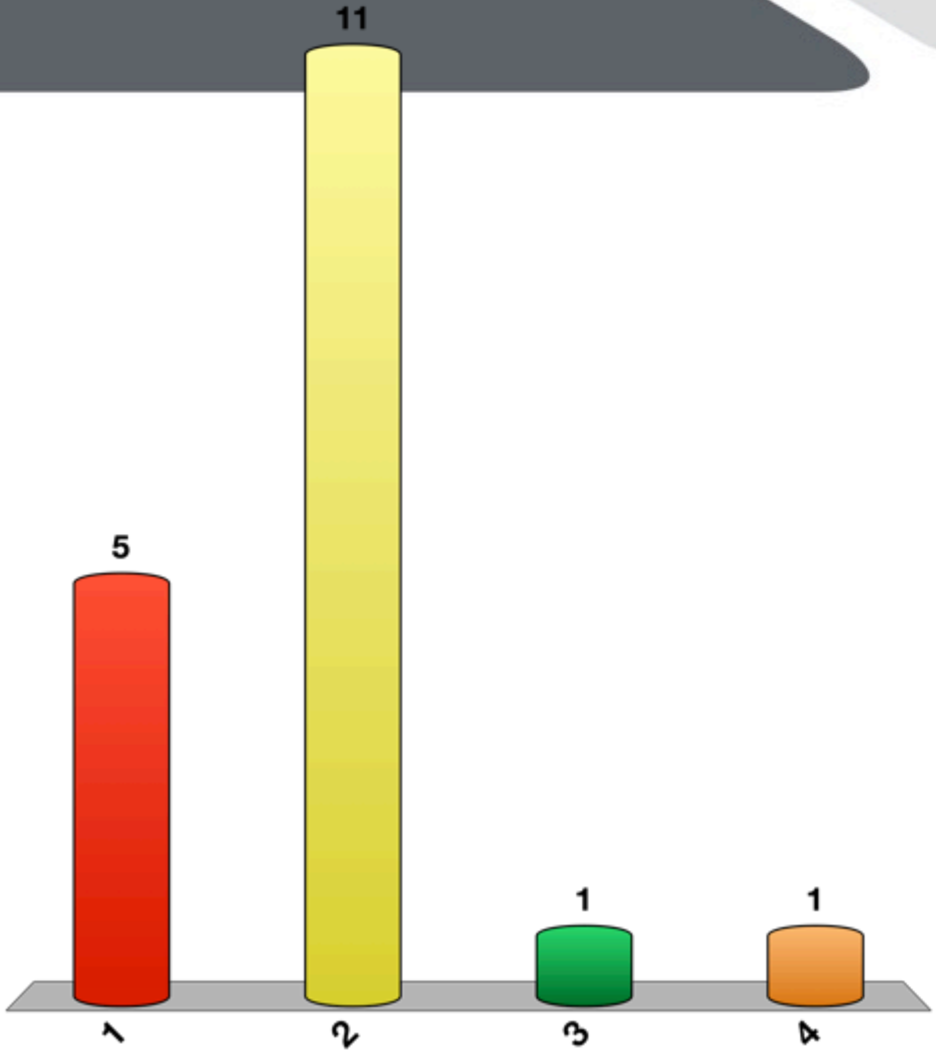
Would you support installing traffic signals at Farmhouse Lane and Crestmont?

1. No
2. Yes
3. No Opinion
4. Don't know



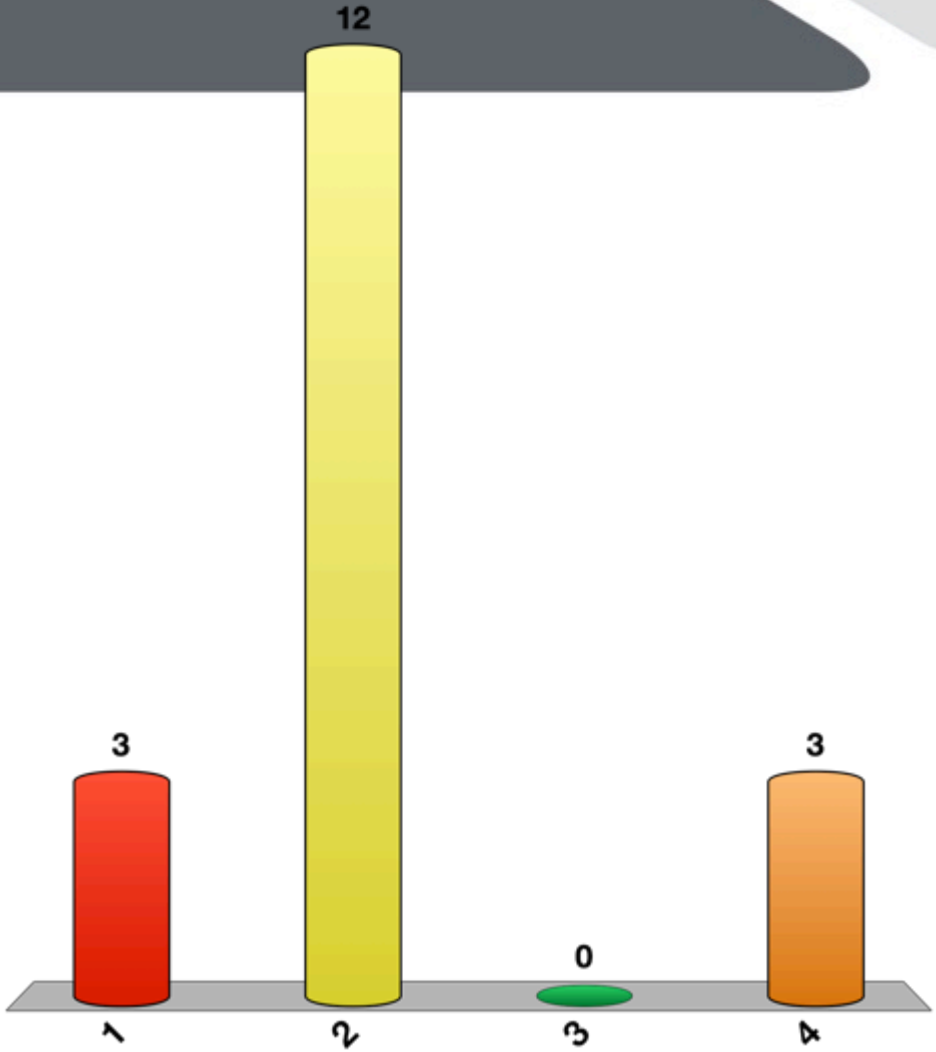
Would you support a full four-lane widening of SR 227 from north of Farmhouse to just south of Los Ranchos?

1. No
2. Yes
3. No Opinion
4. Don’t know



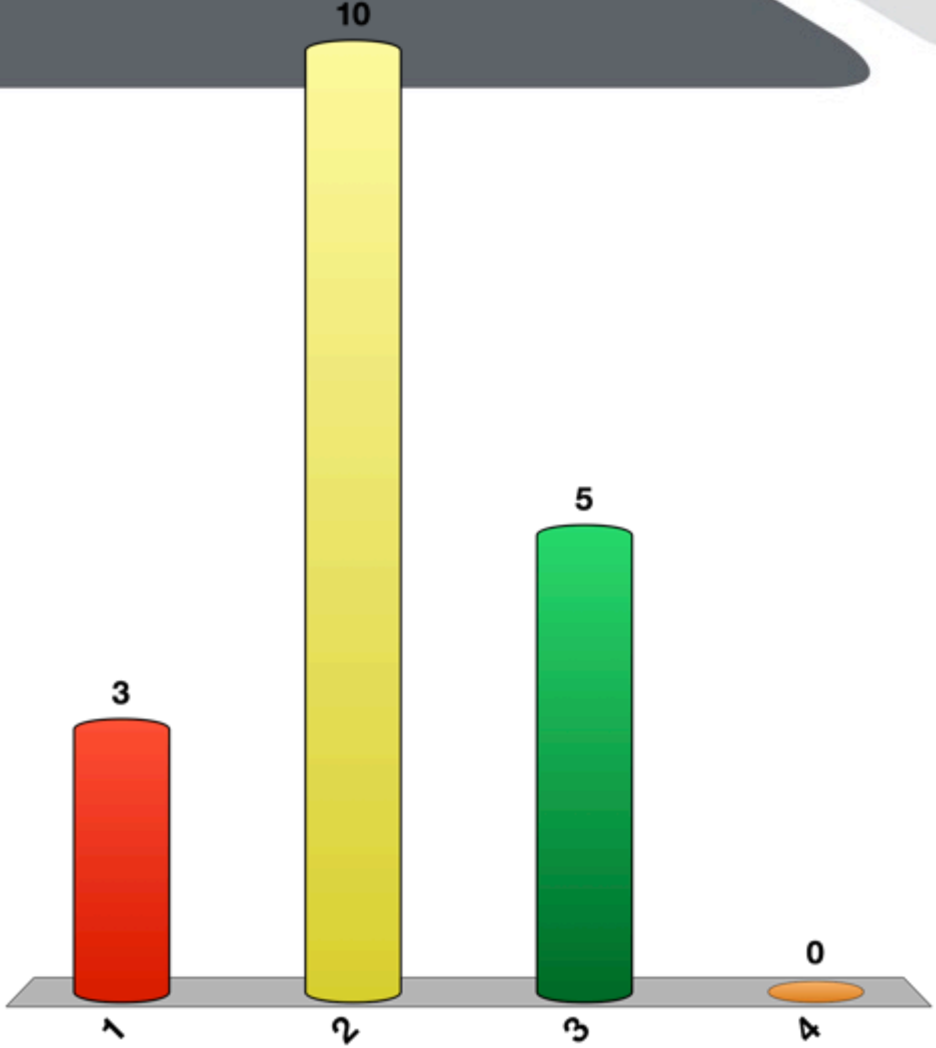
Do you support pinching off access from Airport Drive and consolidating a four legged intersection at Farmhouse Lane?

1. No
2. Yes
3. No Opinion
4. Don’t know



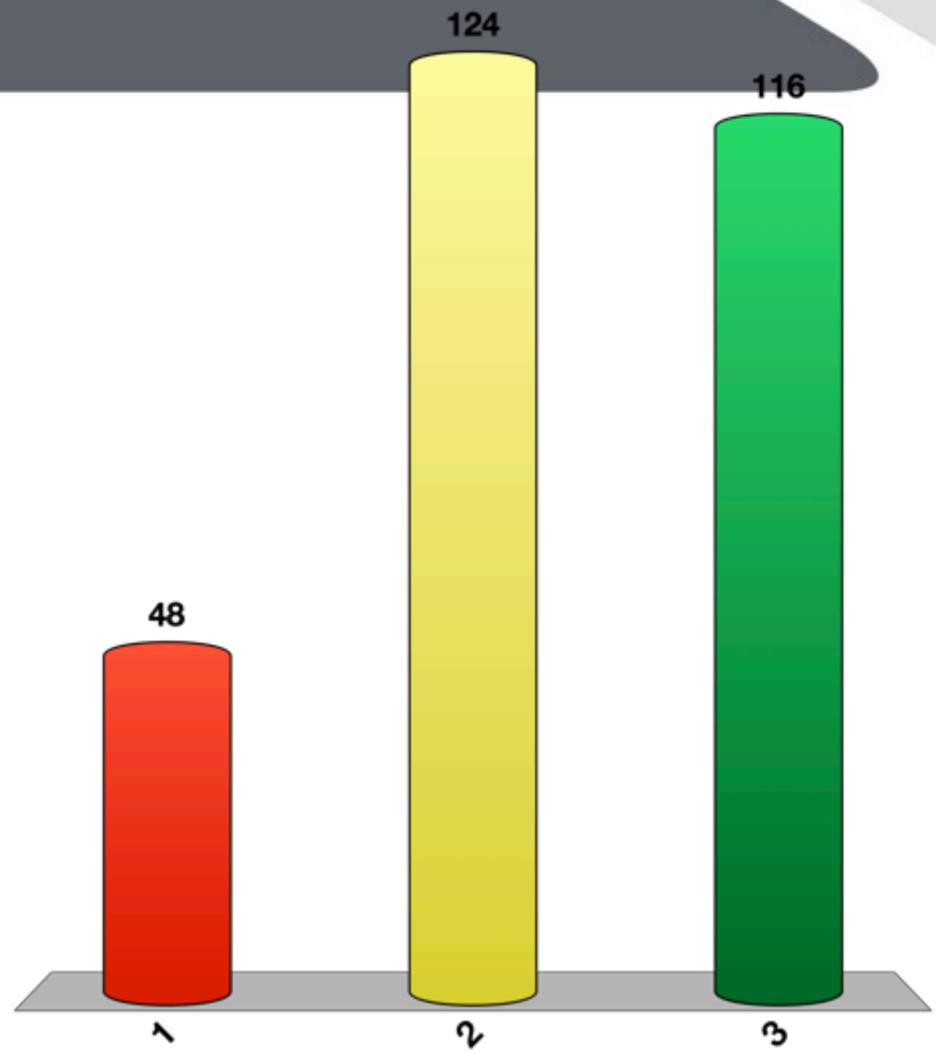
Do you think regional transit services connecting different communities are most in need to relieve congestion in the corridor?

1. Yes
2. No
3. Maybe
4. Don't know



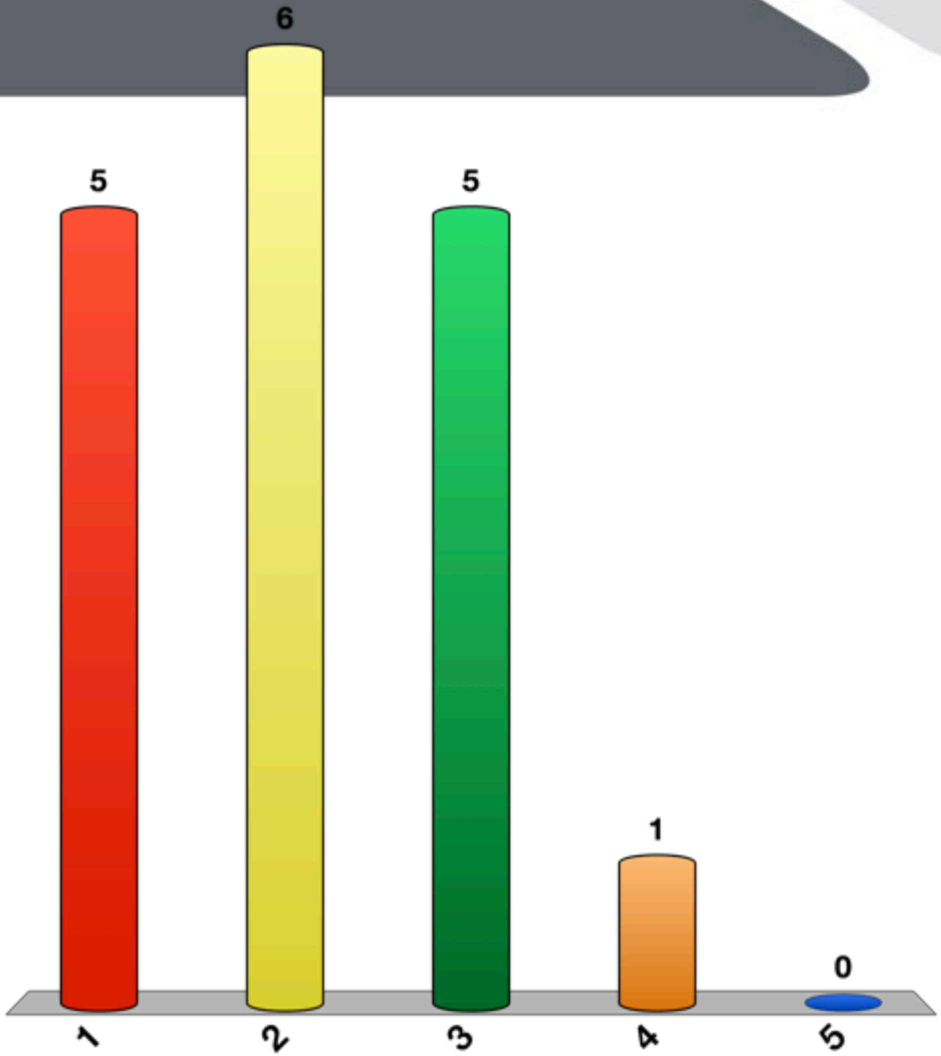
Rank these in order of importance:

1. Preserving SR 227 as a scenic corridor.
2. Reducing congestion through adding mainline capacity with synchronized signals between Farmhouse Lane and Los Ranchos.
3. Striking a balance between added capacity and scenic attributes.



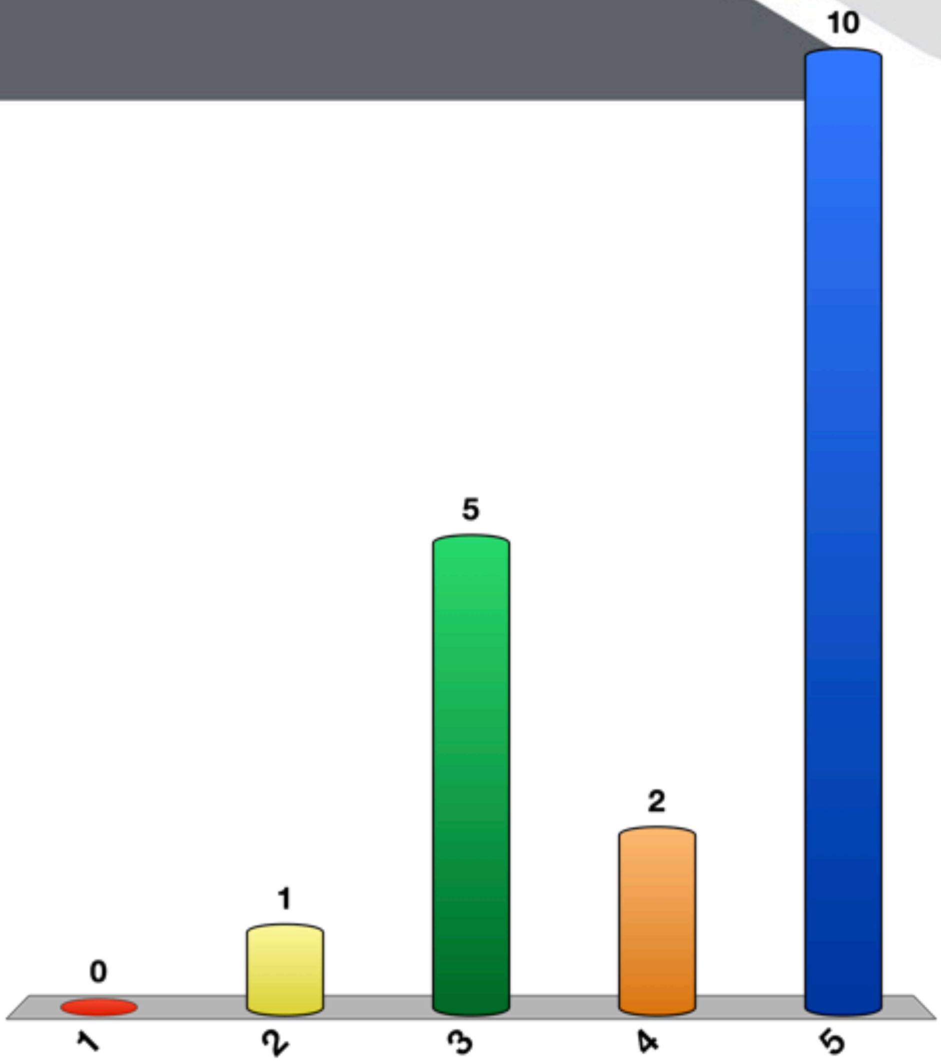
Making improvements to SR 227 is important to the local economy.

1. Strongly Agree
2. Agree
3. Neutral
4. Disagree
5. Strongly Disagree



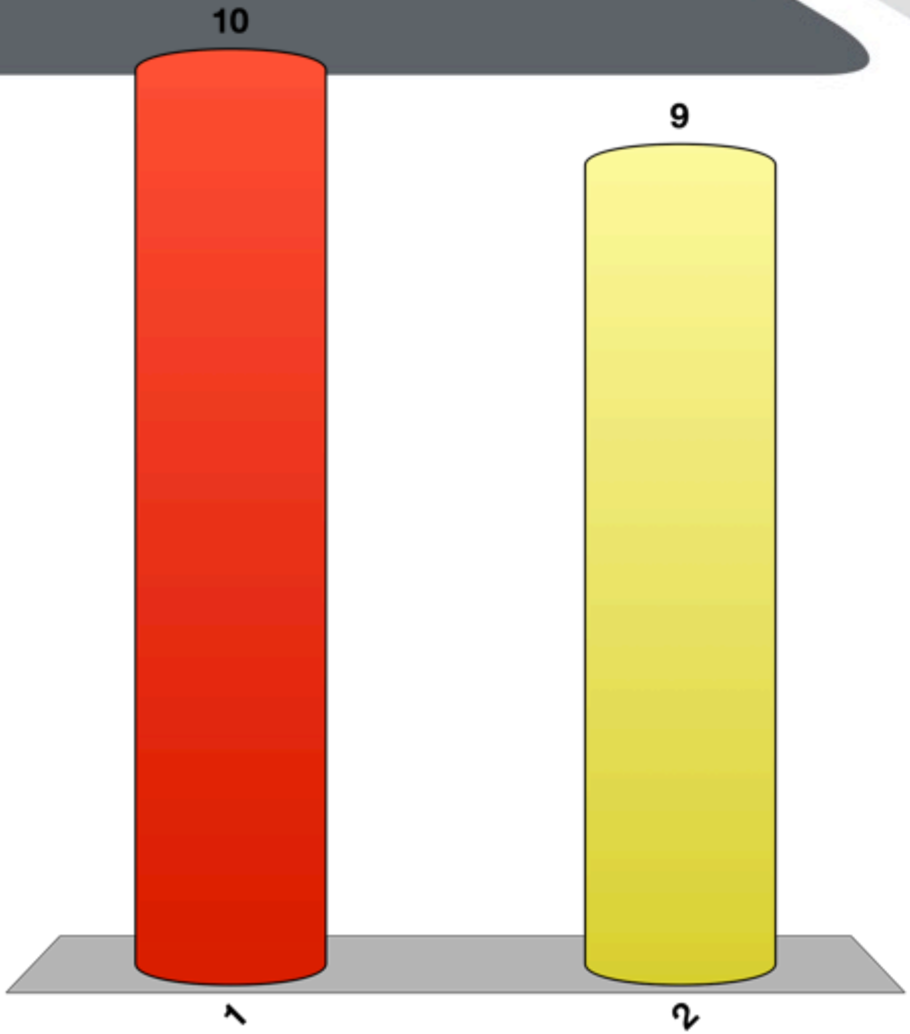
What is your age?

1. Under 21 years
2. 21-35 years
3. 35 to 50 years
4. 50 to 65 years
5. Over 65 years



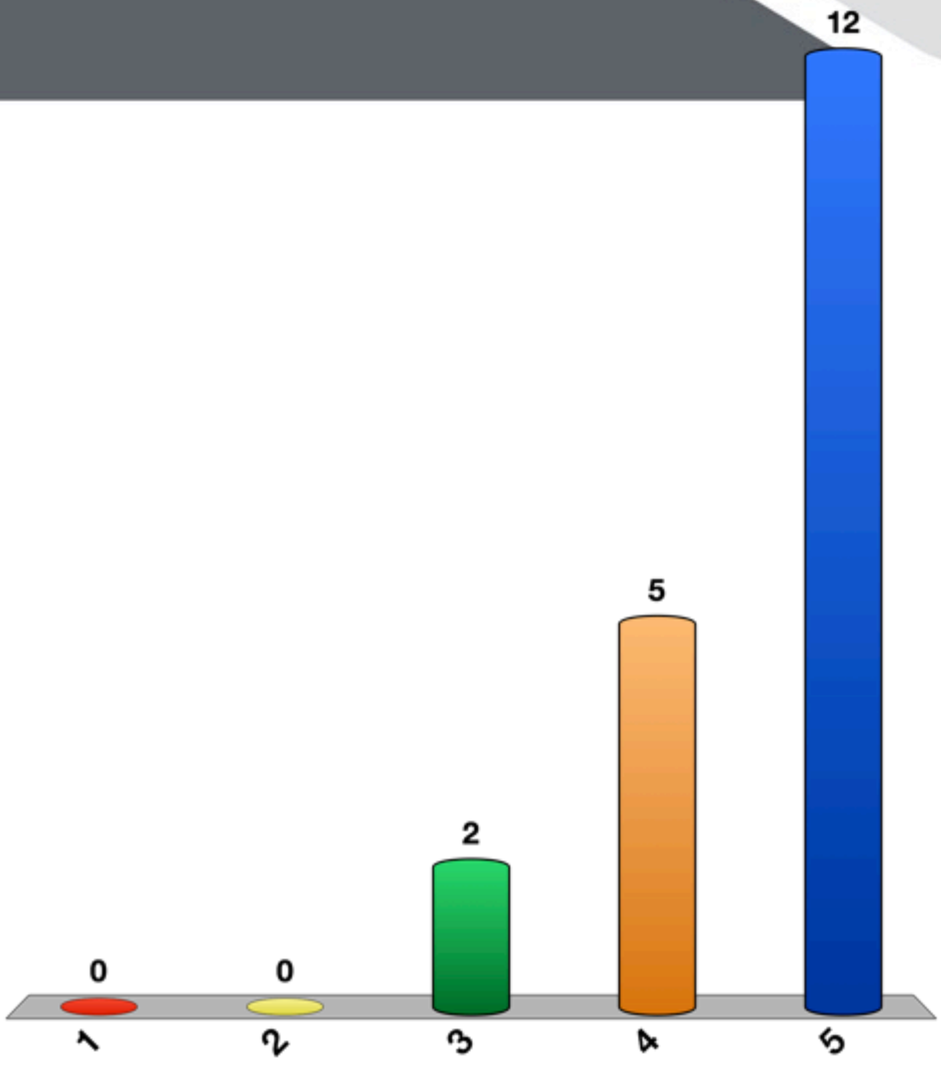
What is your gender?

1. Male
2. Female



How long have you lived in San Luis Obispo County?

1. 5 years or less
2. 5-10 years
3. 10-15 years
4. 15-25 years
5. More than 25 years



SR 227 Operations Study

Public Workshop 3
Sept. 15, 2016
Los Ranchos Elementary

San Luis Obispo Council of Governments

SLOCOG

What the study addresses

Source: SLO Tribune

What the study addresses

Source: SLO Tribune

- Congestion
- Side street access
- Safety
- Multimodal access

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Date	Activity
June 2015	Public comments expressed concerns about safety, access and other factors; Board authorized study
September	Kickoff East Airport Business Alliance presentation
November	Public Workshop 1 @ Los Ranchos Elementary
Jan-Feb 2016	Traffic counts
Jan-Apr	Travel time data collection
Feb-May	Traffic assessments and other analyses
May	Public Workshop 2 @ Los Ranchos Elementary
June	First (admin) draft
July-Aug	Stakeholder review
Aug-Sept	Second draft (public review)
September	**Public Workshop 3 @ Los Ranchos Elementary**

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Date	Activity
September	**Public Workshop 3 @ Los Ranchos Elementary**
September 28	Advisory committee review
October 12	Board reviews draft, releases for final public comment
November 16	Advisory committee review
December 7	Board consideration of adoption

SLOCOG

What the study measures

- Intersection delay and level of service (LOS)
- Volume/capacity ratio
- Corridor travel times
- Travel time reliability
- Local vs. regional traffic
- Location and type of recent crashes
- Bicycle and pedestrian traffic volumes

- Relinquishment assessment
- Environmental screening technical memo
- Future transit service assessment
- Signal warrant analysis
- Intersection Control Evaluations (ICE)

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Finding the most cost-effective alternative
Benefit-Cost Analysis

Monetized benefits

- Travel Time & Buffer Savings
- Reduce VMT
- Enhance Safety
- Emissions
- Health

- Construction
- Capital Support
- Right-of-Way

Estimated $ Spent

CALIFORNIA 227

- Policy Consistency
- Environmental Sensitivity
- Community Support
- Social Equity
- Ancillary Benefits

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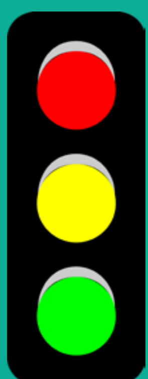
SAN LUIS OBISPO COUNCIL OF GOVERNMENTS

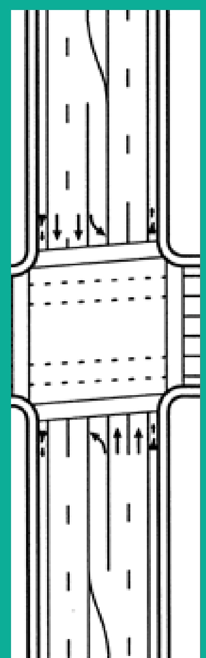
Analysis years

- Existing conditions
- 2025
- 2035

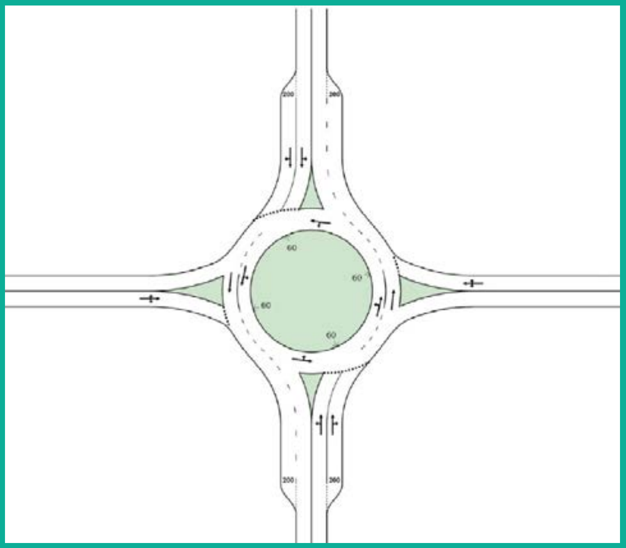
Alternatives evaluated

Widening with Coordinated Adaptive Signal Control





Roundabout Corridor



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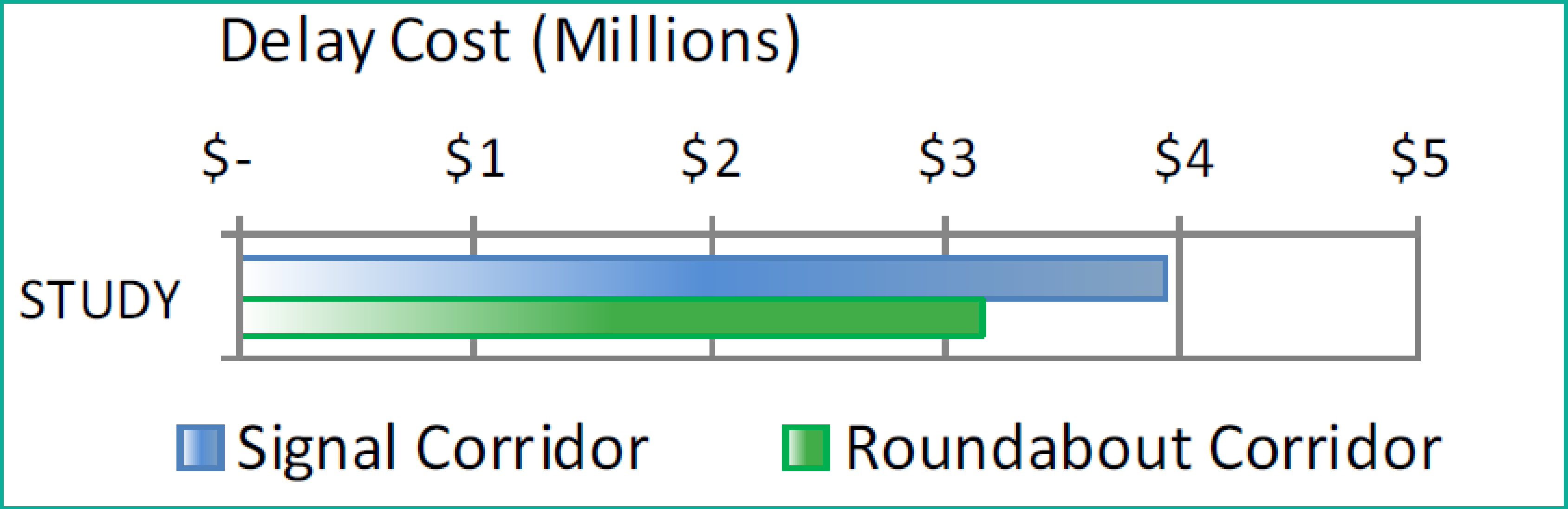
Recommended alternative: Roundabout Corridor Delay



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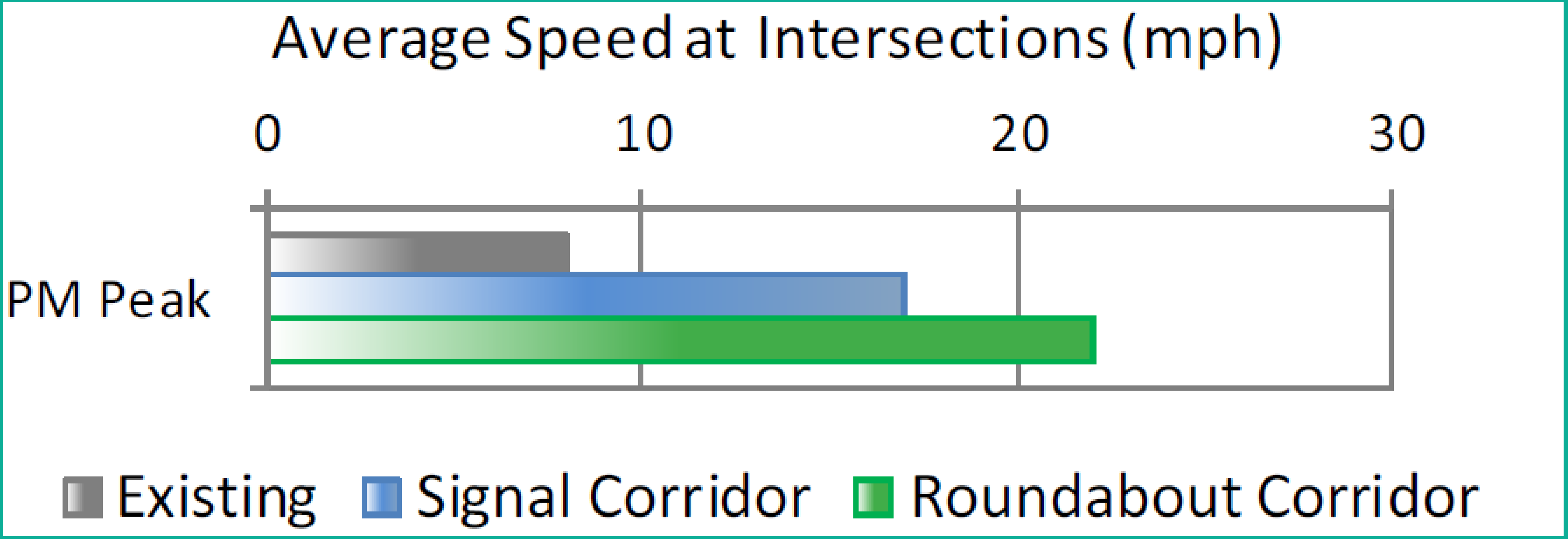
Recommended alternative: Roundabout Corridor
Average speed at intersections, PM peak (mph)



Corridor travel time

Scenario	Corridor Concept	AM peak travel time (min)	PM peak travel time (min)	% change from 2035 "no build"
2015 Existing Conditions	Signals, stop signs	7.9	6.6	
2035 Existing Corridor	Signals, stop signs	8.5	9.0	
2035	Signal Corridor	2.4	2.4	(72%)
2035	Roundabout Corridor	2.2	2.3	(74%)

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What it's like to… turn left from Crestmont

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What it's like to…
turn left from Crestmont

	AM peak		PM peak	
Scenario	**Delay (sec)**	**LOS**	**Delay (sec)**	**LOS**
Today	>300	F	280	F
2025 (no build	>300	F	>300	F
2035	>300	F	>300	F
2035 Signal Corridor	40.1	D	40.9	D
2035 Roundabout Corridor	**7.4**	**A**	**14.2**	**B**

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What it's like to...
turn left from Los Ranchos

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What it's like to… turn left from Los Ranchos

	AM peak		PM peak	
Scenario	**Delay (sec)**	**LOS**	**Delay (sec)**	**LOS**
Today	34.7	C	68.5	E
2025 (no build	35.3	D	69.9	E
2035	32.4	C	72.3	E
2035 Signal Corridor	38.9	D	38.7	D
2035 Roundabout Corridor	12.0	B	26.6	D

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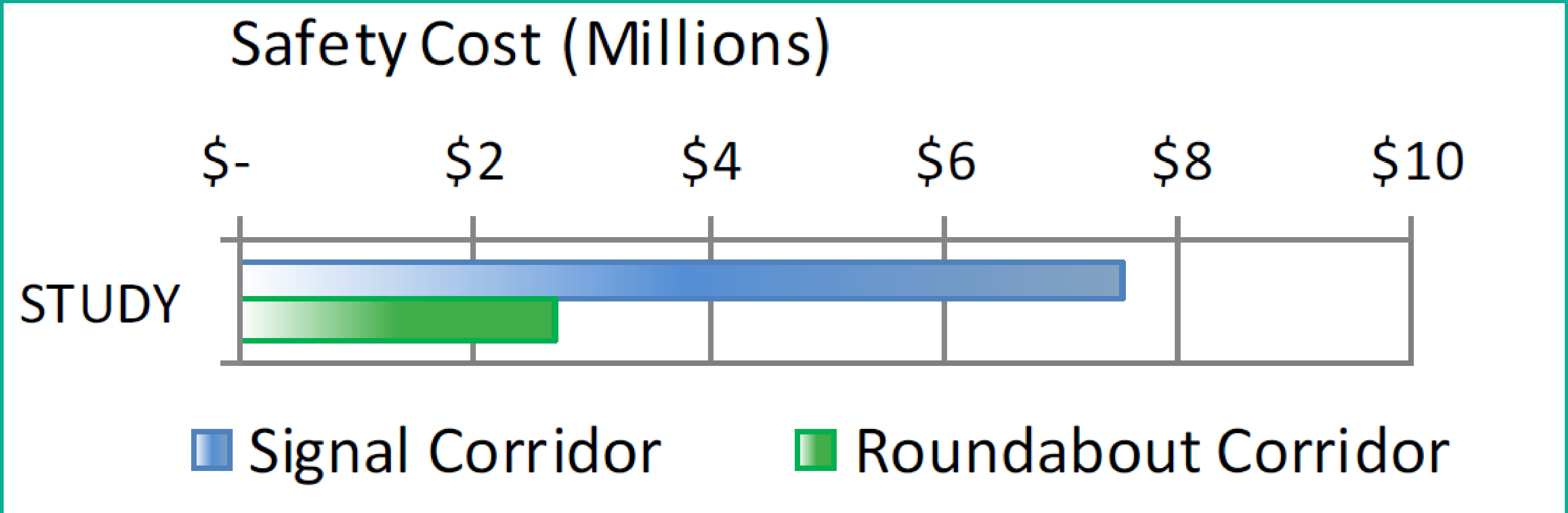
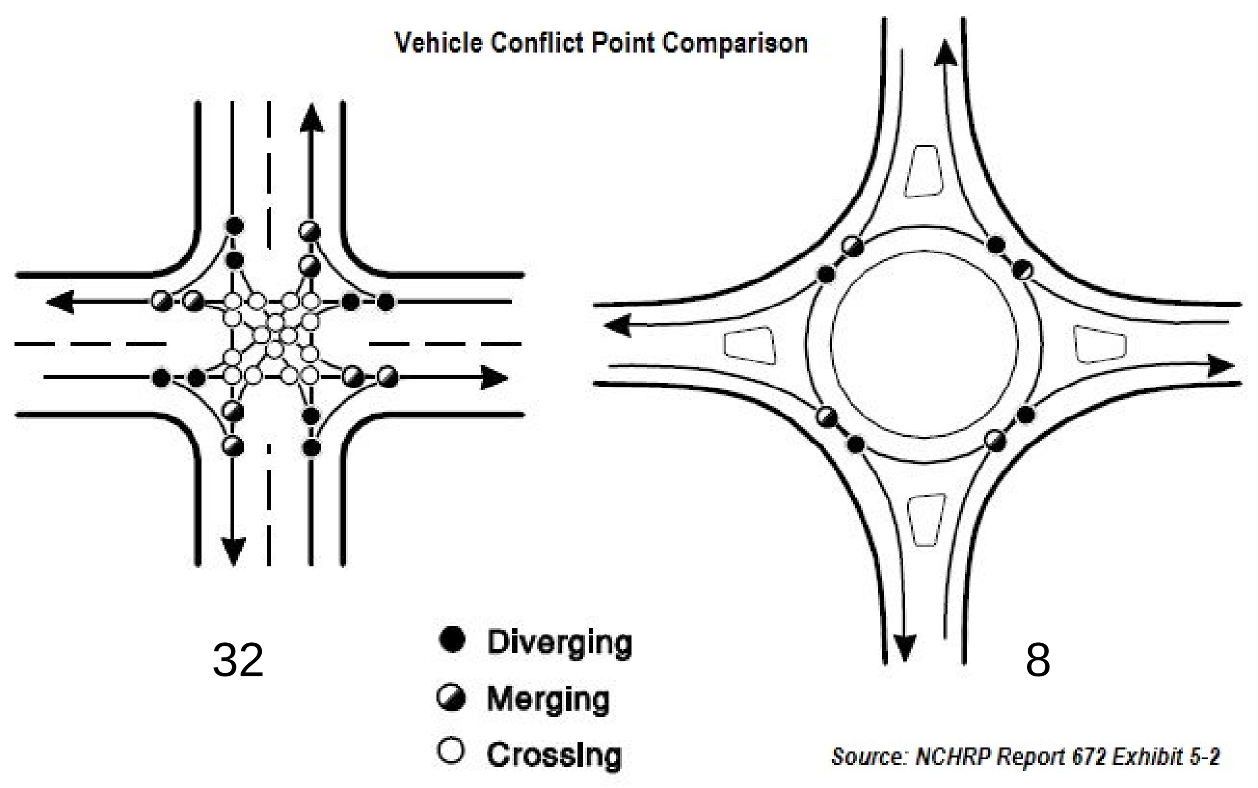
Recommended alternative: Roundabout Corridor Safety



Roundabouts

Proven safety countermeasure

- Reduce intersection vehicle and pedestrian conflict points
- Reduce intersection speeds
- Reduce overall crashes
- Reduce severity of crashes
- Reduce road widths



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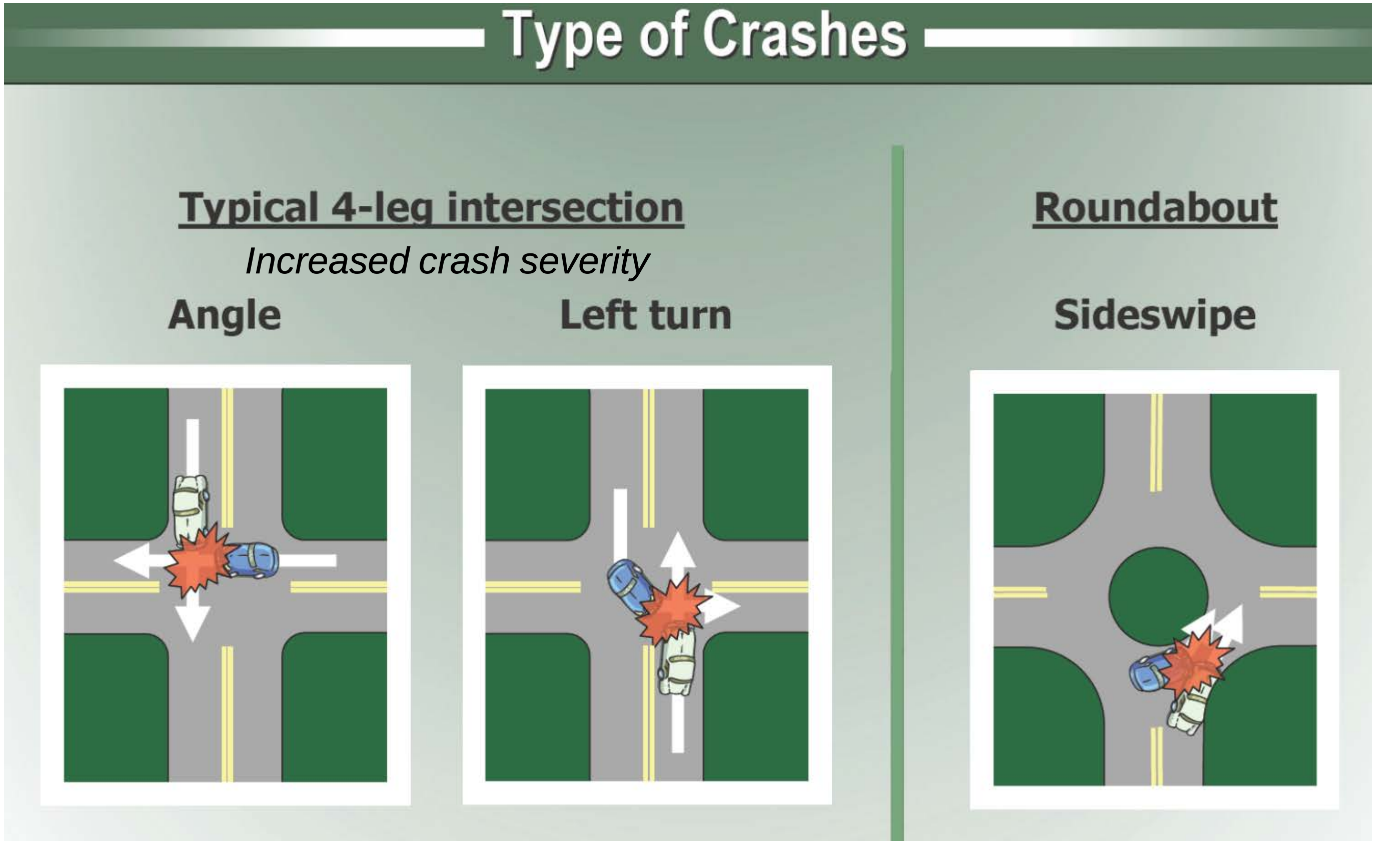
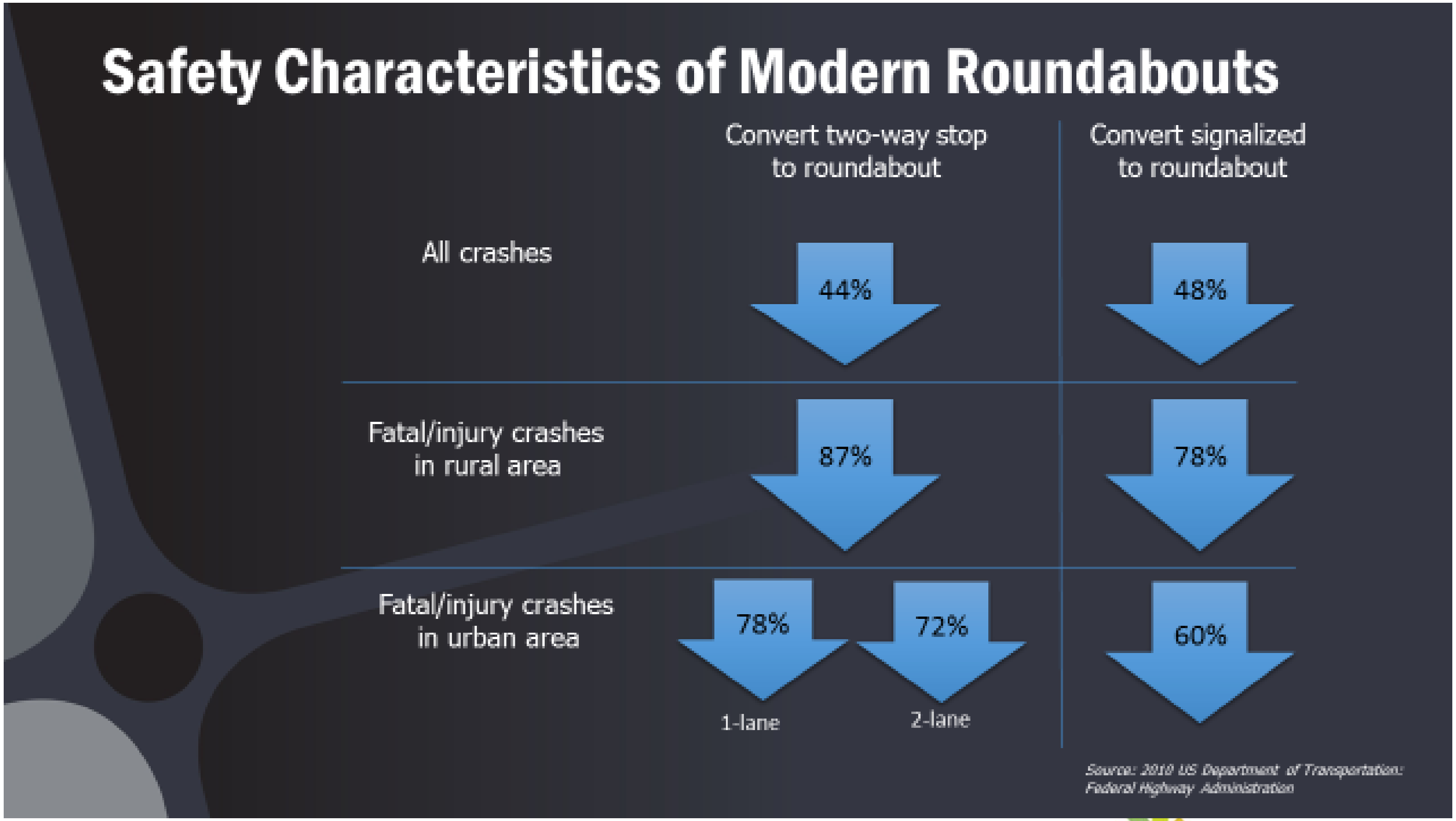
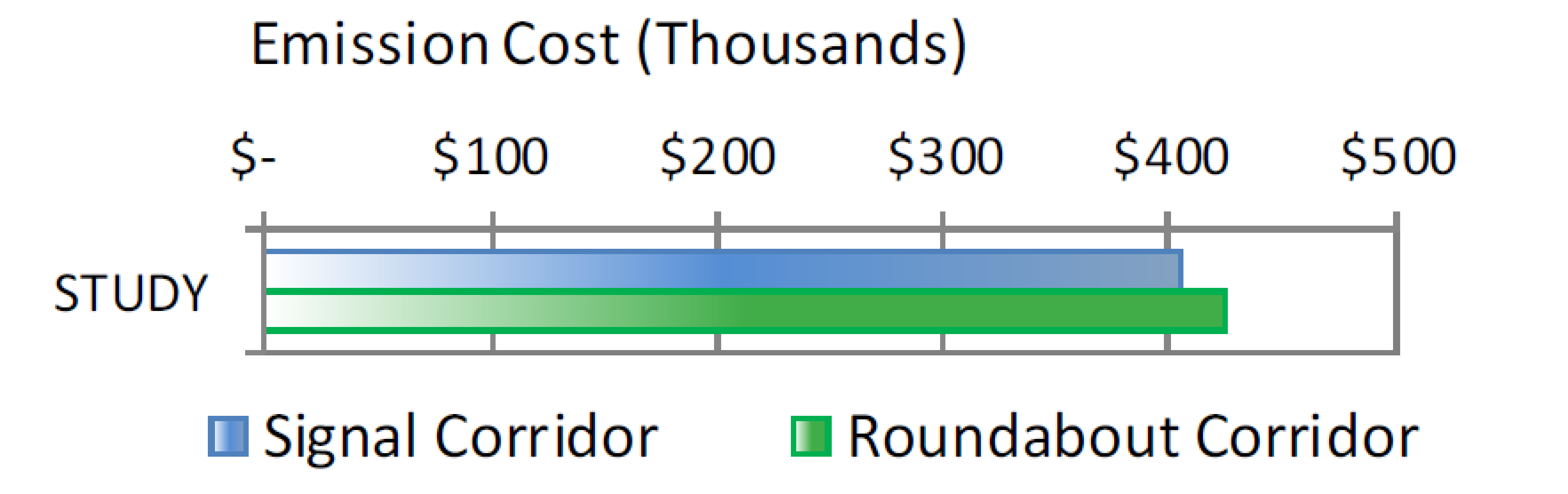
Roundabout Characteristics



Roundabout Characteristics



Recommended alternative: Roundabout Corridor Emissions



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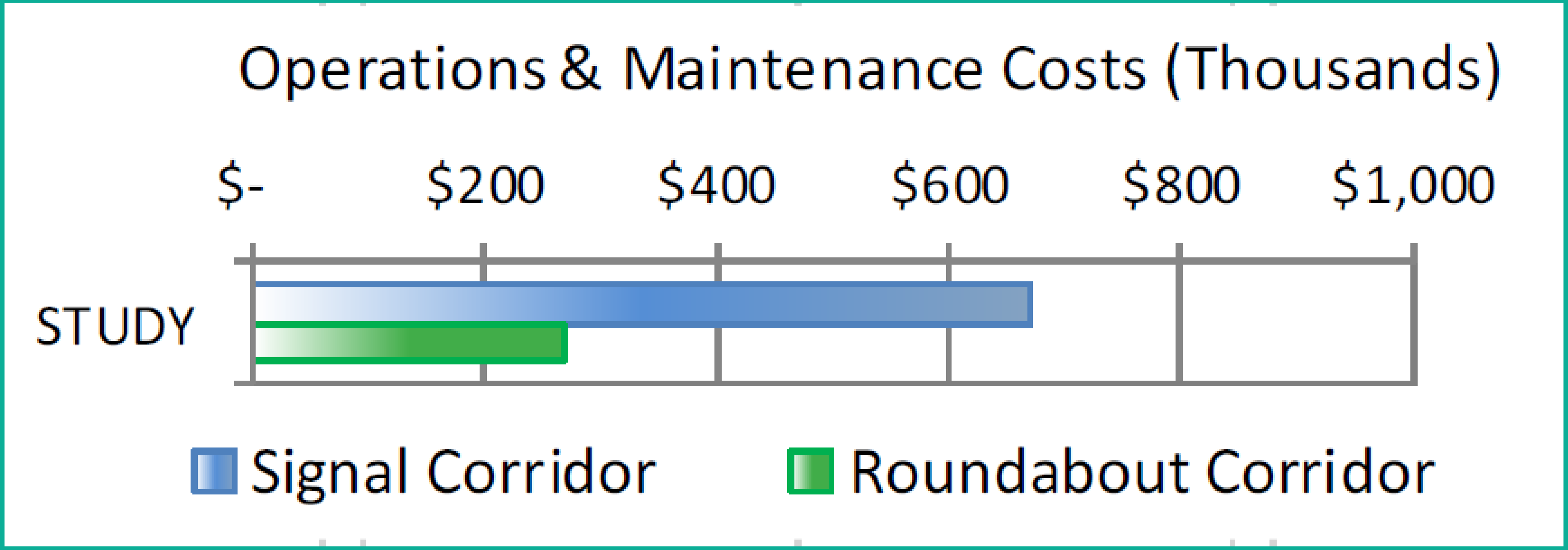
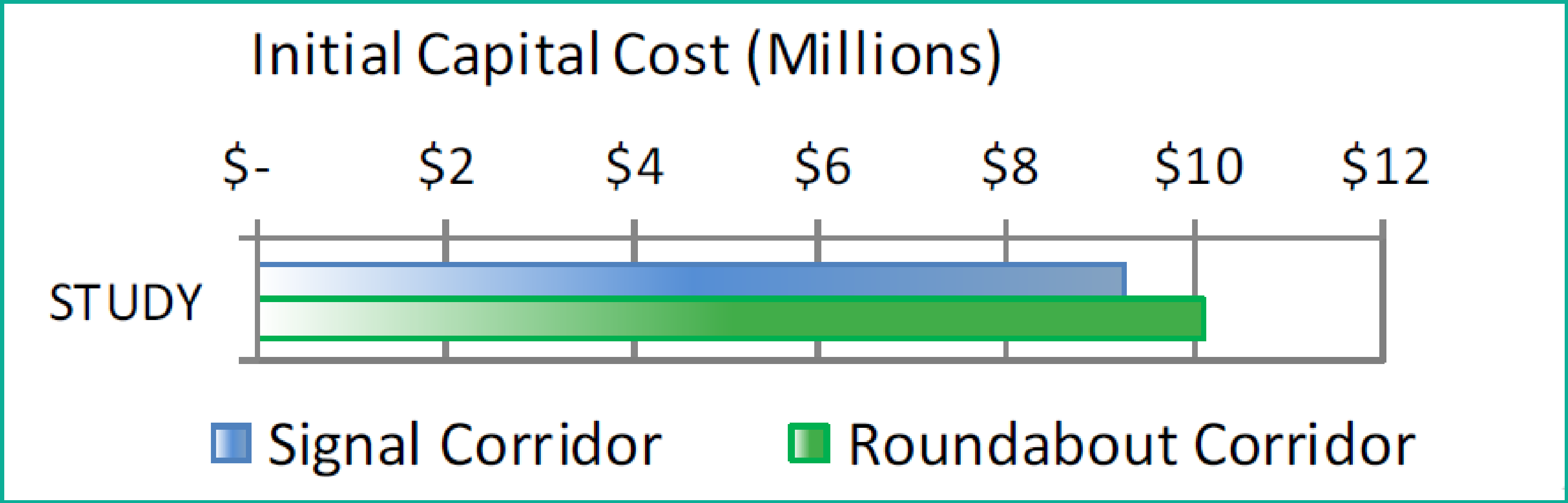
Recommended alternative: Roundabout Corridor Operations and Maintenance Costs



Recommended alternative: Roundabout Corridor Initial Capital Costs



- Total initial costs
  - Signal Corridor: $11.3 million
  - Roundabout Corridor: $10.8 million

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Total costs

Item	Signal Corridor	Roundabout Corridor
Total initial cost	11,300,000	10,800,000
Operations and maintenance (over 20 years) – intersections	650,000	250,000
Maintenance (over 20 years) – segments	>2,400,000	2,400,000
Total	**>14,350,000**	**13,450,000**

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Recommended alternative: Roundabout Corridor Footprint

- Signal Corridor
  - Add channelization (turn lanes) at all four intersections
  - Given 45-55 mph design speeds, widening to four lanes is required
- Roundabout Corridor
  - 200 ft. taper at intersection approaches
  - Between intersections, maintain two-lane road

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Funding scenarios

- Existing funding: $1,750,000 (at risk of being reallocated)
- Projected funding: Best case: $3,000,000 total
- Supplemental funding: **Measure J**: $1,750,000 + **$8,000,000** = $9,750,000

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Improvement phasing: Short term (0-5 yrs)

- **Begin preliminary engineering** for Los Ranchos and Buckley roundabouts; build Los Ranchos roundabout, subject to Caltrans process
- **Begin coordination** on Rolling Hills secondary access
- Interim channelization improvements at Crestmont Dr. (assess / install?)
- Rehabilitate pathway from Los Ranchos to Crestmont to become part of the Edna-Price Canyon Trail, extend trail on west side of road from Crestmont to Tank Farm (**begin preliminary engineering**)
- Re-align Airport Dr. with Farmhouse
- Widen northbound 227 to four through lanes from Farmhouse to just south of Kendall
- Right-in/right-out/left-in at Kendall (left-outs at Farmhouse)
- Install rumble strips from Airport Dr. to Los Ranchos

Bold text = immediate action (0-1 yrs)

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Improvement phasing: Mid term (0-10 yrs)

- Build Buckley Rd. roundabout
- Construct secondary access connecting Rolling Hills to Buckley Rd.
  - With traffic calming treatments to reduce speeds and discourage cut-through traffic

Improvement phasing: Long term (10-20 yrs)

- Build Crestmont Dr. roundabout
- Build Farmhouse Ln. roundabout

CONTACT INFORMATION

Jeff Brubaker, AICP
Transportation Planner

805-788-2104
jbrubaker@slocog.org

APPENDIX B

LEVEL OF SERVICE AND TECHNICAL METHODOLOGIES

TRAFFIC ANALYSIS METHODOLOGY

Level of Service (LOS) is a qualitative measure that defines the experience of motorists using an intersection. LOS is designated by the letters "A" through "F", with "A" being the best condition (little or no delay) and "F" being the worst (high delay, congestion, low quality of service). The measure of effectiveness (MOE) that defines LOS for a given facility type i.e., roadway segment, signalized intersection, non-signalized intersection etc.) as well as the means used to compute the MOE is described in this section.

Roadway Segments

Segment LOS was determined using the rural two-lane highway methodology outlined in Chapter 11 of the 2010 Highway Capacity Manual (HCM). The two-lane highway LOS calculation is dependent on the class of the roadway. Class I two-lane highways are highways where motorists expect to travel at high speeds. Class II two-lane highways are lower speed highways and serve scenic routes or areas of rugged terrain. Class III two-lane highways serve moderately developed areas with higher densities of local traffic and side-street access. For purposes of this analysis – SR 227 was analyzed as both a Class II and a Class III two-lane highway. For Class II highways, LOS is determined based on the percent time spent following (PTSF). This measure is calculated as the percentage of vehicles traveling at headways of less than three seconds. For Class III highways, the percent of vehicles traveling at free-flow speed conditions is used to determine LOS. This measure represents the ability of vehicles to travel at the posted speed limit. The two-lane highway analysis was performed using the Highway Capacity Software (HCS).

Multilane highway LOS is determined using the methodology outlined in Chapter 14 of the 2010 HCM. For multilane highways density of the traffic stream determines LOS. Density measures the average proximity of vehicles to each other in the traffic stream expressed in passenger cars per mile per lane (pcpmpl) of roadway. Multilane highway operations were evaluated using the HCM 2010 compatible spreadsheet models.

Table B.1 and Table B.2 show the segment LOS criteria for two-lane and multilane highways respectively.

Signalized Intersections

Traffic operations at signalized study intersections were analyzed using the procedures and methodologies contained in Chapter 21 of the 2010 HCM. For signalized intersections, the HCM operational method calculates the average control delay per vehicle (sec./veh), and assigns an LOS designation based upon the amount of delay.

Non-Signalized Intersections

Traffic operations at non-signalized study intersections were analyzed using the procedures and methodologies contained in Chapter 19 and 20 of the 2010 HCM. The LOS criteria for non-signalized intersections are different than the criteria used for signalized intersections. The primary reason for this is that motorists expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than a non-signalized intersection. Additionally, there are a number of driver behavior considerations that combine to make delays at signalized intersections more tolerable than at non-signalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, while drivers on the minor street approaches to two-way stop-controlled (TWSC) intersections must remain attentive in order to identify acceptable gaps and vehicle conflicts. Also, there is often greater variability in the amount of delay experienced by motorists at non-signalized intersections than signalized intersections. For these reasons, the control delay threshold for any given LOS grade is less for a non-signalized intersection than for a signalized intersection. While overall intersection LOS is calculated for all-way stop-controlled (AWSC) intersections, for TWSC intersections, LOS is only calculated for the minor street (i.e., no delay is assumed for the uncontrolled major street through movements).

A qualitative description of the various service levels associated with a non-signalized intersection is presented in **Table B.3**. A quantitative definition of level of service for both signalized and non-signalized intersections is presented in **Table B.4**.

Table B.1. Two-Lane State Highways LOS Criteria

LOS	Class II Highways: Percent Time Spent Following (%)	Class III Highways: Percent Free-Flow Speed (%)
A	0-40	>91.7
B	>40-55	>83.3-91.7
C	>55-70	>75.0-83.3
D	>70-85	>66.7-75.0
E	>85	≤66.7
Based on *Highway Capacity Manual,* Transportation Research Board, Washington D.C., 2010, Exhibit 15-3		

Table B.2. Multi-Lane State Highways LOS Criteria

LOS	Free Flow Speed (mi/h)	Density (pcpmpl)
A	60+	>0 -11
B	60+	>11-18
C	60+	>18-26
D	60+	>26-35
E	60 55 50 45	>35-40 >35-41 >35-43 >35-45
F	Demand Exceeds Capacity	
	60 55 50 45	>40 >41 >43 >45
Based on *Highway Capacity Manual,* Transportation Research Board, Washington D.C, 2010, Exhibit 14-4		

Table B.3. Level of Service Definition for Non-signalized Intersections

Level of Service	Average Delay per Vehicle to Minor Street
A	Nearly all drivers find freedom of operation. Very seldom is there more than one vehicle in queue.
B	Some drivers begin to consider the delay an inconvenience. Occasionally there is more than one vehicle in queue.
C	Many times there is more than one vehicle in queue. Most drivers feel restricted, but not objectionably so.
D	Often there is more than one vehicle in queue. Drivers feel quite restricted.
E	Represents a condition in which the demand is near or equal to the probable maximum number of vehicles that can be accommodated by the movement. There is almost always more than one vehicle in queue. Drivers find the delays approaching intolerable levels.
F	Forced flow. Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection.

Table B.4. Signalized and Non-signalized Intersection Level of Service Criteria

LOS	Average Delay (sec/veh)		Description
	Signalized	Non-signalized	
A	≤ 10.0	≤ 10.0	Very Low Delay: This occurs when progression is extremely favorable and most vehicles arrive during a green phase. Most vehicles do not stop at all.
B	>10.0 & ≤20.0	>10.0 & ≤15.0	Minimal Delays: This generally occurs with good progression, short cycle lengths, or both. More vehicles stop than at LOS A, causing higher levels of average delay.
C	>20.0 & ≤35.0	>15.0 & ≤25.0	Acceptable Delay: Delay increases due to only fair progression, longer cycle lengths, or both. Individual cycle failures (*to service all waiting vehicles*) may begin to appear at this level of service. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.
D	>35.0 & ≤55.0	>25.0 & ≤35.0	Approaching Unstable/Tolerable Delays: The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	>55.0 & ≤80.0	>35.0 & ≤50.0	Unstable Operation/Significant Delays: These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.
F	>80.0	>50.0	Excessive Delays: This level, considered to be unacceptable to most drivers, often occurs with oversaturation (i.e., when arrival flow rates exceed the capacity of the intersection). It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Source: *Highway Capacity Manual,* Transportation Research Board, Washington D.C, 2010

Roundabout Intersections

Roundabouts share the same basic control delay formulation with two-way and all-way STOP-controlled intersections, adjusting for the effect of YIELD control. However, at the time of publication of the 2010 HCM, no research was available on traveler perception of quality of service at roundabouts. In the absence of such research, the service measure and thresholds have been made consistent with those for non-signalized intersections, primarily on the basis of this similar control delay formulation.

LOS criteria specified in the 2010 HCM was used to establish the quality of service for the roundabout from a user's perspective. The 2010 HCM uses the average control delay (sec/veh) and volume-to-capacity ratio (v/c) to establish thresholds for LOS. The LOS criteria for motorists using roundabouts are given in **Table B.5**. As the table notes, LOS F is assigned if the volume-to-capacity ratio of a lane exceeds 1.0 regardless of the control delay. For assessment of LOS at the approach and intersection levels, LOS is based solely on control delay. The thresholds in **Table B.5** are based on the considered judgment of the Transportation Research Board Committee on Highway Capacity and Quality of Service.

Table B.5. Level of Service Criteria for Roundabout Intersections

Control Delay (s/veh)	Level of Service by Volume-to-Capacity Ratio*	
	v/c ≤ 1.0	v/c > 1.0
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

*For approaches and intersection-wide assessment, LOS is defined solely by control delay

Roundabout operations were analyzed using HCM 2010 model in SIDRA Intersections 6.0 software. Based on Caltrans' Roundabout Geometric Design Guidance (June 2007), HCM Parameters A and B were calibrated to better reflect gap acceptance behavior of California drivers for critical headway and follow-up headway. The calibration factors, or 2010 HCM Parameters A and B, were derived based on field observations to more accurately reflect operational performance of California roundabouts. The differences among the default parameters used in the 2010 HCM model and recommended values for California roundabouts are shown in **Table B.6**.

Table B.6. Roundabout Model Parameters for Entry Capacity

	Default 2010 HCM Parameters		Modified HCM Parameters based on Caltrans guidance	
	A	B	A	B
Single-lane circulating stream (n_c=1)				
Single-lane entry (n_e=1, n_c=1)	1130	0.00100	1440	0.00100
Multi-lane entry (n_e> 1, n_c=1): apply to all lanes	1130	0.00100	1440	0.0010
Multi-lane circulating stream (n_c>1)				
Single-lane entry (n_e=1, n_c=1)	1130	0.00070		
Multi-lane entry (n_e> 1, n_c=1)				
Dominate lane (right lane)	1130	0.00070	1640	.00090
Subdominate lane (left lane)	1130	0.00075	1640	.00100
Source: *Roundabout Geometric Design Guidance*, California Department of Transportation, June 2007				

Signal Warrants

At non-signalized intersections, the potential need for a traffic signal was evaluated. Traffic signal warrants are a series of standards that provide guidelines for determining if a traffic signal is appropriate. If one or more signal warrants are met, signalization of the intersection may be appropriate. However, a signal should not be installed if none of the warrants are met, since the installation of signals would increase delays on the previously uncontrolled major street and may increase particular types of accidents.

As stated in the latest edition of the California Manual on Uniform Traffic Control Devices (CA-MUTCD), *"An engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether installation of a traffic control signal is justified at a particular location. The investigation of the need for a traffic control signal shall include an analysis of the applicable factors contained in the following traffic signal warrants and other factors related to existing operation and safety at the study location:"*

Warrant 1, Eight-Hour Vehicular Volume;
Warrant 2, Four-Hour Vehicular Volume;
Warrant 3, Peak Hour;
Warrant 4, Pedestrian Volume;
Warrant 5, School Crossing;
Warrant 6, Coordinated Signal System;
Warrant 7, Crash Experience; and,
Warrant 8, Roadway Network.

This study evaluated only two warrants – the peak 1-hour (Warrant #3) traffic signal warrant and collision history warrant (Warrant #7). Per the CA-MUTCD *"The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal."* This traffic analysis is a "planning level" analysis of a selected subset of warrants should NOT be considered to take the place of a full engineering signal warrant analysis. Hence, the application of these two warrants should be considered as indicators for the potential need for a more detailed "full" warrant analysis.

Multi-modal Level of Service

Multi-modal Level of Service (MMLOS) methodology is based on the 2010 HCM. This chapter documents the LOS of pedestrians, bicyclists, transit riders, and motorists. For purposes of this analysis, this procedure was only applied to pedestrian and bicycle modes at intersections. Key factors contributing to these modes LOS are highlighted below. MMLOS criteria is based on quantitative scores. A quantitative description of the various service levels associated with pedestrian service quality scores is presented in **Table B.7**. A quantitative description of the various service levels associated with bicycle service quality scores is presented in **Table B.8**.

Pedestrian Signalized Intersection LOS

The primary factors influencing pedestrian LOS at signalized intersections are cross-section (based on the number of side street lanes crossed), vehicle speed on the cross street, vehicle volume on the cross street, and pedestrian signal delay. The more lanes a cross street has, the worse the pedestrian signalized intersection LOS. Higher speeds and higher volumes approaching from the side streets result in a worse LOS. The final factor influencing pedestrian LOS at a signalized intersection is the delay to the pedestrian caused by the signal control. The longer a pedestrian has to wait for the walk sign at the intersection, the worse the LOS will be for pedestrians.

Bicycle Signalized Intersection LOS

The two factors affecting bicycle LOS at signalized intersections are vehicle volume and a cross-section factor. The vehicle volume factor is influenced by the number of vehicles per lane. As the auto volume per lane increases, the LOS for bicyclists at a signalized intersection deteriorates. Since it is based on auto volume per lane, volume changes will affect smaller facilities more than multilane facilities.

The second factor influencing signalized intersection bicycle LOS is the cross-section factor which is comprised of two major components, the width of the cross street and the width of the traveled way. The wider an intersection is to cross while traveling on the main street, the worse the LOS will be for bicyclists. The width of the traveled way in the major street is the summation of the widths of the outside auto lane, bicycle lane, and shoulder. The larger the value of this summation, the better the LOS will be for bicyclists. Of the factors influencing bicycle signalized intersection LOS, this is the most important.

Pedestrian Non-signalized Intersection LOS

The primary factors influencing pedestrian LOS at non-signalized intersections are crossing distance, vehicle volume, and expected motorist yield rate based on installed crossing treatments. The longer the crossing distance, the worse the pedestrian LOS. Higher volumes also result in a worse LOS as they increase the average delay for an adequate gap to cross. Another major factor influencing pedestrian LOS is the type of crossing treatment installed and its associated expected motorist yield rate. The lower the yield rate, the worse the pedestrian LOS.

Bicycle Non-signalized Intersection LOS

There is no bicycle LOS methodology for non-signalized intersections. Given the similarity between vehicle and bicycle movements from side-street or two-way stop controlled intersections, the vehicle delay and LOS is reported for bicycles at non-signalized intersections.

Table B.7. Level of Service Criteria for Bicyclist

MMLOS Grade	LOS Score
A	< 2.00
B	> 2.00 and < 2.75
C	> 2.75 and < 3.50
D	> 3.50 and < 4.25
E	> 4.25 and < 5.00
F	> 5.00
Source: *Highway Capacity Manual 2010 Chapter 16*	

Table B.8. Pedestrian LOS Criteria (Quality of Service)

Pedestrian QOS LOS Score	LOS by Average Pedestrian Space (square feet per person)					
	> 60	> 40 and < 60	> 24 and < 40	> 15 and < 24	> 8 and < 15[1]	< 8[1]
< 2.00	A	B	C	D	E	F
> 2.00 and < 2.75	B	B	C	D	E	F
> 2.75 and < 3.50	C	C	C	D	E	F
> 3.50 and < 4.25	D	D	D	D	E	F
> 4.25 and < 5.00	E	E	E	E	E	F
> 5.00	F	F	F	F	F	F
Source: *Highway Capacity Manual 2010 Chapter 16*						

1 In cross-flow situations, the LOS E-F threshold in 13 square feet per person.

Network Level of Service

The Network LOS analysis reflects both mid-block/segment operations as well as operations at intersections and operationalizes the Urban Street Facilities procedure detailed in the HCM 2010. Network/corridor LOS is based on Speed Efficiency Ratio (i.e., ratio of average corridor travel speed to average corridor free flow speed) and Travel Time Index (i.e., ratio of average corridor travel time to average corridor free flow travel time) indices. It was determined based the HCM 2010 method within the SIDRA Version 6.0 software. Quantitative LOS criteria descriptions of the HCM Network LOS are provided in **Table B.9**.

Table B.9. Network Level of Service Criteria

Network LOS	Speed Efficiency Ratio	Travel Time Index
A	0.85 < Ratio ≤ 1.00	8.3 < TTI ≤ 10
B	0.67 < Ratio ≤ 0.85	6.3 < TTI ≤ 8.3
C	0.50 < Ratio ≤ 0.67	4.4 < TTI ≤ 6.3
D	0.40 < Ratio ≤ 0.50	3.3 < TTI ≤ 4.4
E	0.30 < Ratio ≤ 0.40	2.2 < TTI ≤ 3.3
F	0.0 < Ratio ≤ 0.30	0.0 < TTI ≤ 2.2
Source: *Highway Capacity Manual 2010*		

Benefit-Cost

Monetizing Benefits

Benefits include: delay reduction (segment + intersections); buffer time reduction (i.e., travel time reliability); safety benefits (i.e., collision reduction) and emission reduction benefits. Given that a typical infrastructure improvement life cycle is assumed at 20 years, all of the annualized benefits were aggregated over a 20-year span using discount rate of 4%. The discount rate used in this analysis is consistent with Cal-B/C's recommendation.

Travel time savings can be monetized by using parameters adopted by Caltrans. The followings are value of time for each vehicle type:

- Automobile = $12.50 /person hours
- Truck = $28.70 /person hours
- Average vehicle occupancy rate = 1.15

Collision Reduction Cost Saving Benefits

Benefit from a reduction of accidents is typically measured in terms of number of accidents decreased. To consider the accident improvement in terms of economics benefit, each accident type can be converted to monetized measure in

$/accident. Given the accident cost provided by Cal-B/C for each severity type and the actual number of accidents for San Luis Obispo County, the average accident cost used in this analysis is $101,819.60/accident.

Emission Reduction Cost Saving Benefits

To convert vehicle emissions into monetized benefit, a conversion factor of $23/ton of pollutant was used in this analysis. This factor has been used by Cal-B/C Version 5.0.

APPENDIX C

TRAFFIC COUNT WORKSHEETS

&

COLLISION DATA

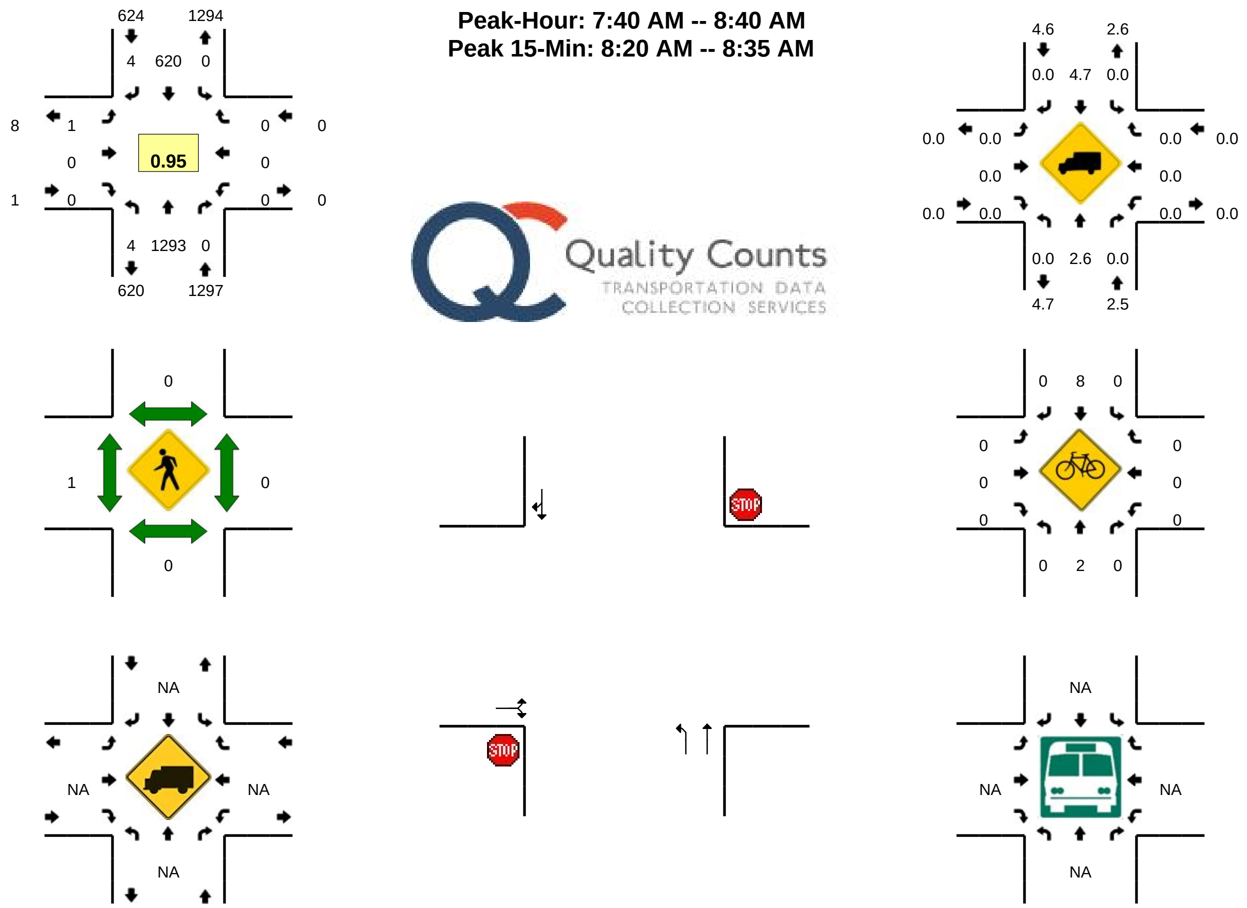
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: SR 227 -- Airport Rd | **QC JOB #:** 13607220

CITY/STATE: San Luis Obispo, CA | **DATE:** Tue, Jan 26 2016

Peak-Hour: 7:40 AM -- 8:40 AM

Peak 15-Min: 8:20 AM -- 8:35 AM



5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Airport Rd (Eastbound) Left	Thru	Right	U	Airport Rd (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	0	62	0	0	0	24	0	0	0	0	0	0	0	0	0	0	86	
7:05 AM	0	34	0	0	0	30	0	0	2	0	0	0	0	0	0	0	66	
7:10 AM	0	52	0	0	0	29	0	0	0	0	1	0	0	0	0	0	82	
7:15 AM	0	70	0	0	0	45	0	0	0	0	0	0	0	0	0	0	115	
7:20 AM	0	64	0	0	0	30	0	0	0	0	0	0	0	0	0	0	94	
7:25 AM	1	72	0	0	0	33	0	0	0	0	0	0	0	0	0	0	106	
7:30 AM	0	106	0	0	0	29	0	0	0	0	0	0	0	0	0	0	135	
7:35 AM	0	96	0	0	0	31	0	0	0	0	0	0	0	0	0	0	127	
7:40 AM	1	112	0	0	0	35	0	0	0	0	0	0	0	0	0	0	148	
7:45 AM	0	102	0	0	0	31	0	0	0	0	0	0	0	0	0	0	133	
7:50 AM	0	108	0	0	0	43	0	0	0	0	0	0	0	0	0	0	151	
7:55 AM	1	116	0	0	0	57	2	0	0	0	0	0	0	0	0	0	176	1419
8:00 AM	0	96	0	0	0	62	0	0	0	0	0	0	0	0	0	0	158	1491
8:05 AM	0	103	0	0	0	62	0	0	0	0	0	0	0	0	0	0	165	1590
8:10 AM	0	109	0	0	0	57	2	0	0	0	0	0	0	0	0	0	168	1676
8:15 AM	2	99	0	0	0	58	0	0	0	0	0	0	0	0	0	0	159	1720
8:20 AM	0	110	0	0	0	55	0	0	0	0	0	0	0	0	0	0	165	1791
8:25 AM	0	107	0	0	0	64	0	0	0	0	0	0	0	0	0	0	171	1856
8:30 AM	0	121	0	0	0	50	0	0	1	0	0	0	0	0	0	0	172	1893
8:35 AM	0	110	0	0	0	46	0	0	0	0	0	0	0	0	0	0	156	1922
8:40 AM	1	98	0	0	0	38	0	0	0	0	1	0	0	0	0	0	138	1912
8:45 AM	0	82	0	0	0	41	0	0	0	0	0	0	0	0	0	0	123	1902
8:50 AM	0	98	0	0	0	47	0	0	0	0	0	0	0	0	0	0	145	1896
8:55 AM	1	97	0	0	0	55	0	0	0	0	1	0	0	0	0	0	154	1874

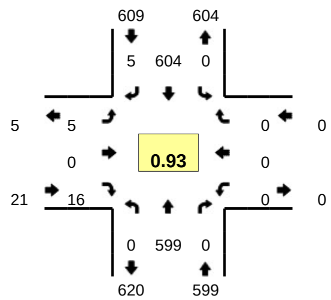
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	1352	0	0	0	676	0	0	4	0	0	0	0	0	0	0	2032
Heavy Trucks	0	48	0		0	32	0		0	0	0		0	0	0		80
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

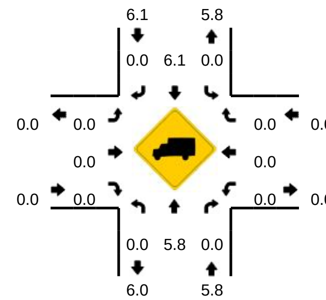
Comments:

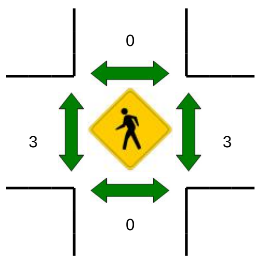
Type of peak hour being reported: Intersection Peak　　Method for determining peak hour: Total Entering Volume

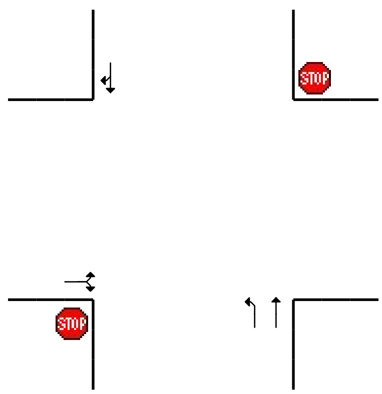
LOCATION: SR 227 -- Airport Rd　　**QC JOB #:** 13607221
CITY/STATE: San Luis Obispo, CA　　**DATE:** Tue, Jan 26 2016

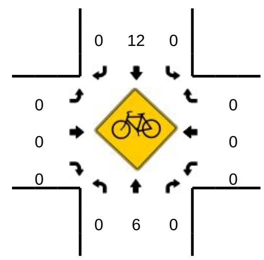
Peak-Hour: 11:45 AM -- 12:45 PM
Peak 15-Min: 11:50 AM -- 12:05 PM

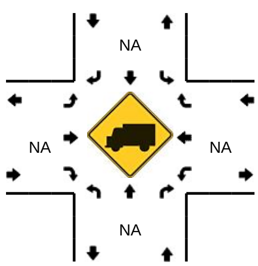


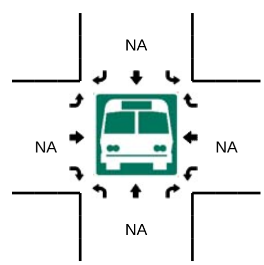












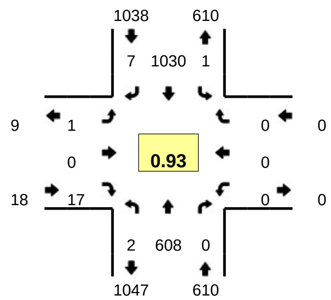
5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Airport Rd (Eastbound) Left	Thru	Right	U	Airport Rd (Westbound) Left	Thru	Right	U	Total	Hourly Totals
11:30 AM	0	52	0	0	0	46	0	0	0	0	1	0	0	0	0	0	99	
11:35 AM	0	39	0	0	0	46	1	0	0	0	0	0	0	0	0	0	86	
11:40 AM	0	52	0	0	0	42	0	0	1	0	3	0	0	0	0	0	98	
11:45 AM	0	46	0	0	0	47	0	0	2	0	3	0	0	0	0	0	98	
11:50 AM	0	55	0	0	0	47	0	0	1	0	6	0	0	0	0	0	109	
11:55 AM	0	57	0	0	0	51	0	0	0	0	2	0	0	0	0	0	110	
12:00 PM	0	57	0	0	0	53	0	0	0	0	2	0	0	0	0	0	112	
12:05 PM	0	44	0	0	0	47	0	0	0	0	0	0	0	0	0	0	91	
12:10 PM	0	51	0	0	0	57	1	0	0	0	1	0	0	0	0	0	110	
12:15 PM	0	42	0	0	0	51	1	0	0	0	0	0	0	0	0	0	94	
12:20 PM	0	52	0	0	0	52	2	0	0	0	0	0	0	0	0	0	106	
12:25 PM	0	47	0	0	0	46	1	0	1	0	0	0	0	0	0	0	95	1208
12:30 PM	0	56	0	0	0	41	0	0	0	0	1	0	0	0	0	0	98	1207
12:35 PM	0	48	0	0	0	49	0	0	0	0	1	0	0	0	0	0	98	1219
12:40 PM	0	44	0	0	0	63	0	0	1	0	0	0	0	0	0	0	108	1229
12:45 PM	1	37	0	0	0	51	0	0	0	0	2	0	0	0	0	0	91	1222
12:50 PM	0	54	0	0	0	47	0	0	0	0	1	0	0	0	0	0	102	1215
12:55 PM	0	59	0	1	0	38	1	0	0	0	1	0	0	0	0	0	100	1205
1:00 PM	0	37	0	0	0	53	0	0	0	0	1	0	0	0	0	0	91	1184
1:05 PM	1	54	0	0	0	39	0	0	0	0	1	0	0	0	0	0	95	1188
1:10 PM	0	43	0	0	0	40	0	0	0	0	0	0	0	0	0	0	83	1161
1:15 PM	0	39	0	0	0	49	3	0	0	0	0	0	0	0	0	0	91	1158
1:20 PM	0	58	0	0	0	45	0	0	2	0	0	0	0	0	0	0	105	1157
1:25 PM	0	45	0	0	0	54	0	0	0	0	2	0	0	0	0	0	101	1163

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	676	0	0	0	604	0	0	4	0	40	0	0	0	0	0	1324
Heavy Trucks	0	44	0		0	32	0		0	0	0		0	0	0		76
Pedestrians		0				0				0				0			0
Bicycles	0	2	0		0	4	0		0	0	0		0	0	0		6
Railroad																	
Stopped Buses																	

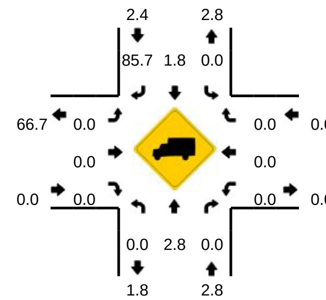
Comments:

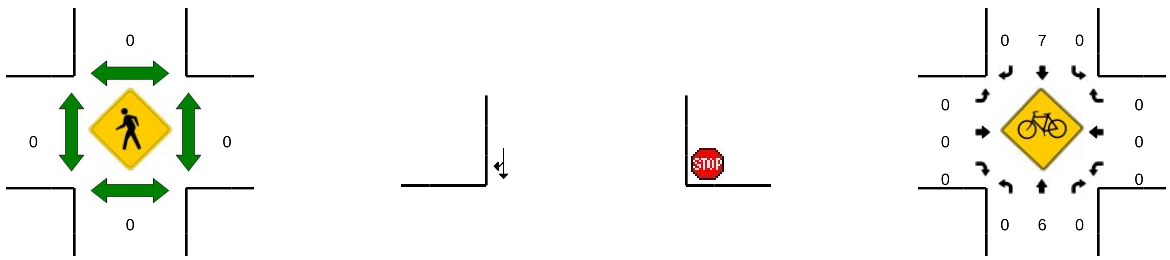
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

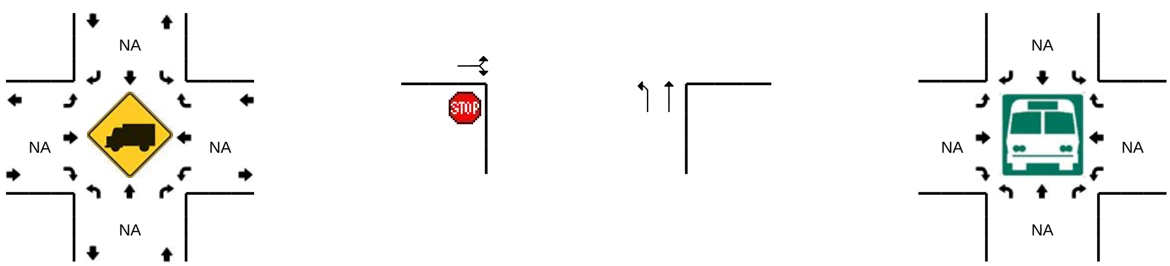
LOCATION: SR 227 -- Airport Rd | **QC JOB #:** 13607222
CITY/STATE: San Luis Obispo, CA | **DATE:** Tue, Jan 26 2016



Peak-Hour: 4:05 PM -- 5:05 PM
Peak 15-Min: 4:05 PM -- 4:20 PM







5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Airport Rd (Eastbound) Left	Thru	Right	U	Airport Rd (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	1	51	0	0	0	64	0	0	0	0	2	0	0	0	0	0	118	
4:05 PM	2	55	0	0	0	98	1	0	0	0	1	0	0	0	0	0	157	
4:10 PM	0	60	0	0	0	84	0	0	1	0	0	0	0	0	0	0	145	
4:15 PM	0	65	0	0	0	81	0	0	0	0	2	0	0	0	0	0	148	
4:20 PM	0	47	0	0	0	82	0	0	0	0	2	0	0	0	0	0	131	
4:25 PM	0	37	0	0	0	69	0	0	0	0	1	0	0	0	0	0	107	
4:30 PM	0	51	0	0	0	108	1	0	0	0	2	0	0	0	0	0	162	
4:35 PM	0	52	0	0	0	112	1	0	0	0	1	0	0	0	0	0	166	
4:40 PM	0	45	0	0	0	70	0	0	0	0	1	0	0	0	0	0	116	
4:45 PM	0	41	0	0	0	72	2	0	0	0	3	0	0	0	0	0	118	
4:50 PM	0	38	0	0	0	76	0	0	0	0	2	0	0	0	0	0	116	
4:55 PM	0	64	0	0	0	92	1	0	0	0	1	0	0	0	0	0	158	1642
5:00 PM	0	53	0	0	0	86	1	1	0	0	1	0	0	0	0	0	142	1666
5:05 PM	0	58	0	0	0	74	0	0	0	0	4	0	0	0	0	0	136	1645
5:10 PM	0	61	0	0	0	75	0	0	0	0	2	0	0	0	0	0	138	1638
5:15 PM	0	53	0	0	0	71	0	0	0	0	1	0	0	0	0	0	125	1615
5:20 PM	0	42	0	0	0	70	0	0	0	0	0	0	0	0	0	0	112	1596
5:25 PM	0	53	0	0	0	78	0	0	0	0	1	0	0	0	0	0	132	1621
5:30 PM	0	45	0	0	0	71	0	0	0	0	0	0	0	0	0	0	116	1575
5:35 PM	0	43	0	0	0	88	0	0	0	0	0	0	0	0	0	0	131	1540
5:40 PM	0	48	0	0	0	87	0	0	0	0	1	0	0	0	0	0	136	1560
5:45 PM	0	37	0	0	0	68	0	0	0	0	0	0	0	0	0	0	105	1547
5:50 PM	0	57	0	0	0	68	0	0	0	0	1	0	0	0	0	0	126	1557
5:55 PM	1	39	0	0	0	60	0	0	0	0	0	0	0	0	0	0	100	1499

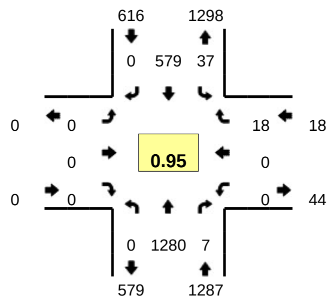
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	8	720	0	0	0	1052	4	0	4	0	12	0	0	0	0	0	1800
Heavy Trucks	0	16	0		0	8	0		0	0	0		0	0	0		24
Pedestrians		0				0				0				0			0
Bicycles	0	2	0		0	2	0		0	0	0		0	0	0		4
Railroad																	
Stopped Buses																	

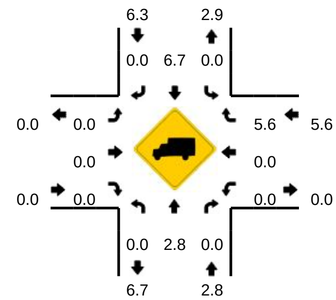
Comments:

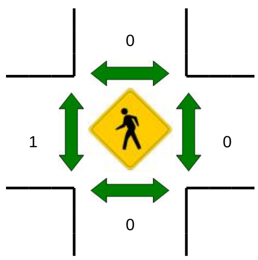
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

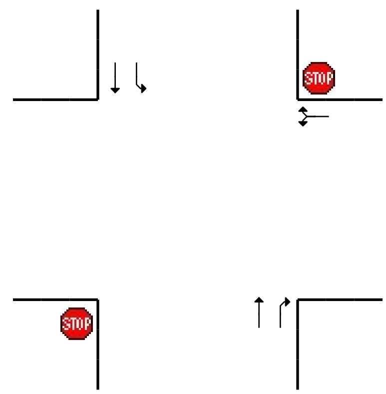
LOCATION: SR 227 -- Farmhouse Ln | **QC JOB #:** 13607208
CITY/STATE: San Luis Obispo, CA | **DATE:** Tue, Jan 26 2016

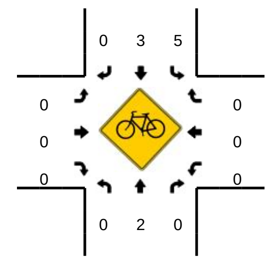
Peak-Hour: 7:40 AM -- 8:40 AM
Peak 15-Min: 8:20 AM -- 8:35 AM

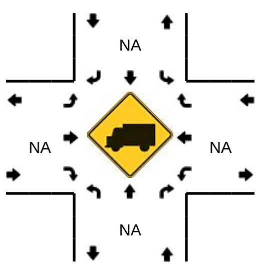


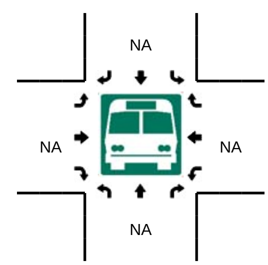












5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Farmhouse Ln (Eastbound) Left	Thru	Right	U	Farmhouse Ln (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	0	60	0	0	2	21	0	0	0	0	0	0	0	0	2	0	85	
7:05 AM	0	31	0	0	0	31	0	0	0	0	0	0	0	0	1	0	63	
7:10 AM	0	51	0	0	3	26	0	0	0	0	0	0	0	0	1	0	81	
7:15 AM	0	69	0	0	0	44	0	0	0	0	0	0	0	0	0	0	113	
7:20 AM	0	64	0	0	2	30	0	0	0	0	0	0	0	0	0	0	96	
7:25 AM	0	72	1	0	1	34	0	0	0	0	0	0	0	0	0	0	108	
7:30 AM	0	104	0	0	0	29	0	0	0	0	0	0	0	0	1	0	134	
7:35 AM	0	99	0	0	0	29	0	0	0	0	0	0	0	0	0	0	128	
7:40 AM	0	111	1	0	2	31	0	0	0	0	0	0	0	0	0	0	145	
7:45 AM	0	101	0	0	4	31	0	0	0	0	0	0	0	0	1	0	137	
7:50 AM	0	106	2	0	3	37	0	0	0	0	0	0	0	0	2	0	150	
7:55 AM	0	116	1	0	6	54	0	0	0	0	0	0	0	0	2	0	179	1419
8:00 AM	0	94	0	0	4	52	0	0	0	0	0	0	0	0	2	0	152	1486
8:05 AM	0	102	1	0	7	59	0	0	0	0	0	0	0	0	1	0	170	1593
8:10 AM	0	109	0	0	0	54	0	0	0	0	0	0	0	0	0	0	163	1675
8:15 AM	0	100	1	0	2	59	0	0	0	0	0	0	0	0	1	0	163	1725
8:20 AM	0	107	0	0	2	51	0	0	0	0	0	0	0	0	3	0	163	1792
8:25 AM	0	105	0	0	2	61	0	0	0	0	0	0	0	0	2	0	170	1854
8:30 AM	0	123	1	0	4	46	0	0	0	0	0	0	0	0	0	0	174	1894
8:35 AM	0	106	0	0	1	44	0	0	0	0	0	0	0	0	4	0	155	1921
8:40 AM	0	97	0	0	2	40	0	0	0	0	0	0	0	0	2	0	141	1917
8:45 AM	0	78	0	0	0	43	0	0	0	0	0	0	0	0	1	0	122	1902
8:50 AM	0	99	0	0	0	43	0	0	0	0	0	0	0	0	0	0	142	1894
8:55 AM	0	101	0	0	2	58	0	0	0	0	0	0	0	0	1	0	162	1877

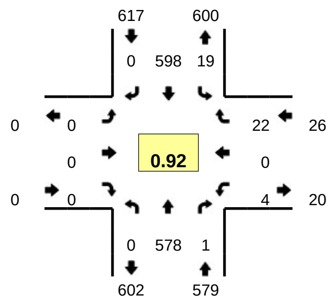
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	1340	4	0	32	632	0	0	0	0	0	0	0	0	20	0	2028
Heavy Trucks	0	40	0		0	36	0		0	0	0		0	0	0		76
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		1	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

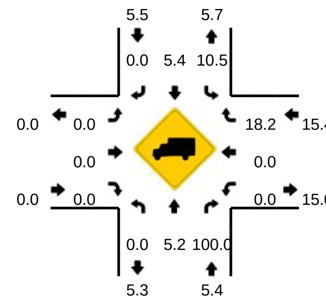
Report generated on 2/4/2016 9:00 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

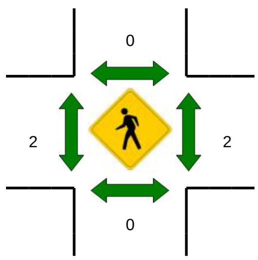
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

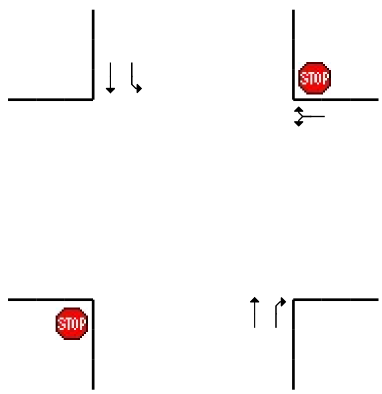
LOCATION: SR 227 -- Farmhouse Ln | **QC JOB #:** 13607209
CITY/STATE: San Luis Obispo, CA | **DATE:** Tue, Jan 26 2016

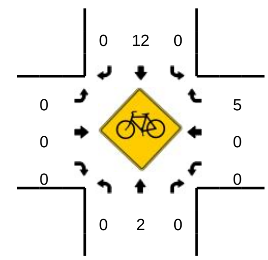


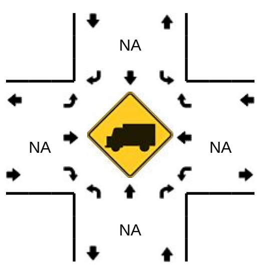
Peak-Hour: 11:45 AM -- 12:45 PM
Peak 15-Min: 11:50 AM -- 12:05 PM

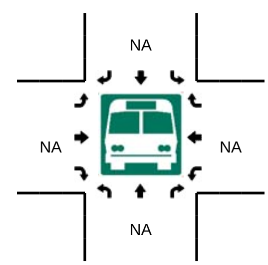












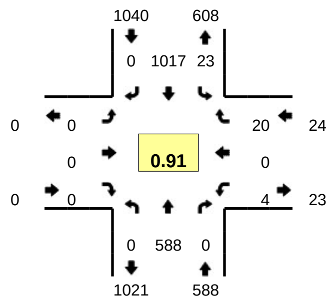
5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Farmhouse Ln (Eastbound) Left	Thru	Right	U	Farmhouse Ln (Westbound) Left	Thru	Right	U	Total	Hourly Totals
11:30 AM	0	50	1	0	2	44	0	0	0	0	0	0	0	0	2	0	99	
11:35 AM	0	37	0	0	1	45	0	0	0	0	0	0	0	0	2	0	85	
11:40 AM	0	51	0	0	2	42	0	1	0	0	0	0	0	0	1	0	97	
11:45 AM	0	44	0	0	3	48	0	0	0	0	0	0	0	0	1	0	96	
11:50 AM	0	54	0	0	1	51	0	0	0	0	0	0	1	0	2	0	109	
11:55 AM	0	54	0	0	1	52	0	0	0	0	0	0	0	0	3	0	110	
12:00 PM	0	52	0	0	2	53	0	0	0	0	0	0	0	0	5	0	112	
12:05 PM	0	42	0	0	2	44	0	0	0	0	0	0	0	0	1	0	89	
12:10 PM	0	50	0	0	3	56	0	0	0	0	0	0	0	0	3	0	112	
12:15 PM	0	41	0	0	1	50	0	0	0	0	0	0	1	0	0	0	93	
12:20 PM	0	51	0	0	1	47	0	0	0	0	0	0	0	0	1	0	100	
12:25 PM	0	47	1	0	1	49	0	0	0	0	0	0	0	0	0	0	98	1200
12:30 PM	0	53	0	0	3	39	0	0	0	0	0	0	1	0	4	0	100	1201
12:35 PM	0	47	0	0	0	50	0	0	0	0	0	0	1	0	1	0	99	1215
12:40 PM	0	43	0	0	1	59	0	0	0	0	0	0	0	0	1	0	104	1222
12:45 PM	0	36	0	0	3	55	0	0	0	0	0	0	0	0	1	0	95	1221
12:50 PM	0	53	0	0	1	46	0	1	0	0	0	0	0	0	1	0	102	1214
12:55 PM	0	61	3	0	1	38	0	0	0	0	0	0	0	0	0	0	103	1207
1:00 PM	0	34	0	0	3	52	0	0	0	0	0	0	0	0	4	0	93	1188
1:05 PM	0	54	1	0	0	39	0	0	0	0	0	0	0	0	1	0	95	1194
1:10 PM	0	41	0	0	2	39	0	0	0	0	0	0	0	0	2	0	84	1166
1:15 PM	0	39	0	0	1	47	0	0	0	0	0	0	0	0	0	0	87	1160
1:20 PM	0	57	0	0	2	41	0	0	0	0	0	0	0	0	0	0	100	1160
1:25 PM	0	43	0	0	1	56	0	0	0	0	0	0	0	0	2	0	102	1164

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	640	0	0	16	624	0	0	0	0	0	0	4	0	40	0	1324
Heavy Trucks	0	36	0		4	28	0		0	0	0		0	0	8		76
Pedestrians		0				0				0				0			0
Bicycles	0	1	0		0	4	0		0	0	0		0	0	2		7
Railroad																	
Stopped Buses																	

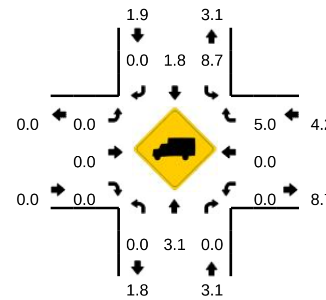
Comments:

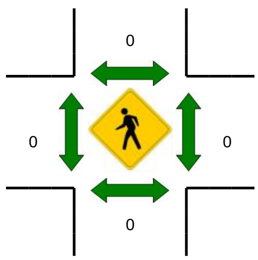
Type of peak hour being reported: Intersection Peak   Method for determining peak hour: Total Entering Volume

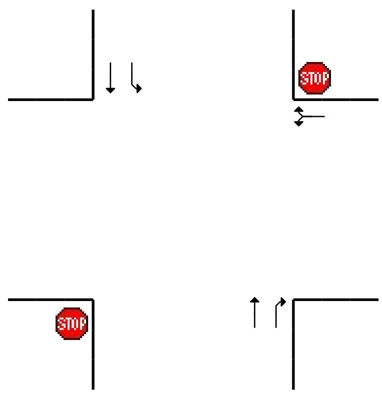
LOCATION: SR 227 -- Farmhouse Ln   **QC JOB #:** 13607210
CITY/STATE: San Luis Obispo, CA   **DATE:** Tue, Jan 26 2016

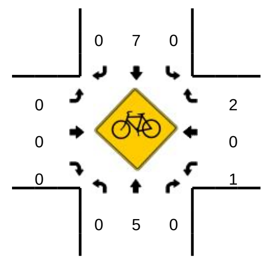


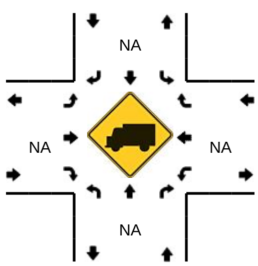
Peak-Hour: 4:05 PM -- 5:05 PM
Peak 15-Min: 4:05 PM -- 4:20 PM

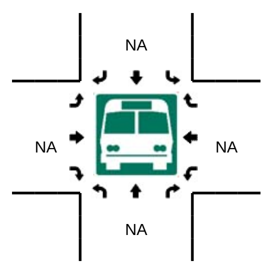












5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Farmhouse Ln (Eastbound) Left	Thru	Right	U	Farmhouse Ln (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	0	51	1	0	1	61	0	0	0	0	0	0	0	0	0	0	114	
4:05 PM	0	57	0	0	2	102	0	0	0	0	0	0	0	0	0	0	161	
4:10 PM	0	60	0	0	3	83	0	0	0	0	0	0	0	0	1	0	147	
4:15 PM	0	61	0	0	3	78	0	0	0	0	0	0	0	0	2	0	144	
4:20 PM	0	49	0	0	1	83	0	0	0	0	0	0	0	0	0	0	133	
4:25 PM	0	36	0	0	0	68	0	0	0	0	0	0	0	0	1	0	105	
4:30 PM	0	49	0	0	0	101	0	0	0	0	0	0	0	0	0	0	150	
4:35 PM	0	53	0	0	5	104	0	0	0	0	0	0	0	0	0	0	162	
4:40 PM	0	37	0	0	1	74	0	0	0	0	0	0	0	0	7	0	119	
4:45 PM	0	42	0	0	2	71	0	0	0	0	0	0	0	0	1	0	116	
4:50 PM	0	34	0	0	1	79	0	0	0	0	0	0	0	0	0	0	114	
4:55 PM	0	63	0	0	3	89	0	0	0	0	0	0	1	0	2	0	158	1623
5:00 PM	0	47	0	0	2	85	0	0	0	0	0	0	3	0	6	0	143	1652
5:05 PM	0	51	0	0	2	77	0	0	0	0	0	0	0	0	7	0	137	1628
5:10 PM	0	58	0	0	1	77	0	0	0	0	0	0	0	0	4	0	140	1621
5:15 PM	0	52	0	0	1	69	0	0	0	0	0	0	0	0	2	0	124	1601
5:20 PM	0	42	0	0	2	72	0	0	0	0	0	0	0	0	0	0	116	1584
5:25 PM	0	52	0	0	1	77	0	0	0	0	0	0	0	0	2	0	132	1611
5:30 PM	0	41	0	0	1	69	0	0	0	0	0	0	0	0	0	0	111	1572
5:35 PM	0	43	0	0	2	87	0	0	0	0	0	0	0	0	3	0	135	1545
5:40 PM	0	46	0	0	2	88	0	0	0	0	0	0	0	0	1	0	137	1563
5:45 PM	0	38	0	0	3	67	0	0	0	0	0	0	0	0	2	0	110	1557
5:50 PM	0	53	0	0	0	68	0	0	0	0	0	0	0	0	1	0	122	1565
5:55 PM	0	42	0	0	0	60	0	0	0	0	0	0	0	0	0	0	102	1509

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	712	0	0	32	1052	0	0	0	0	0	0	0	0	12	0	1808
Heavy Trucks	0	16	0		0	12	0		0	0	0		0	0	0		28
Pedestrians		0				0				0				0			0
Bicycles	0	2	0		0	2	0		0	0	0		1	0	0		5
Railroad																	
Stopped Buses																	

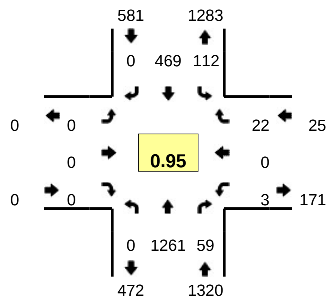
Comments:

Report generated on 2/4/2016 9:00 AM   SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

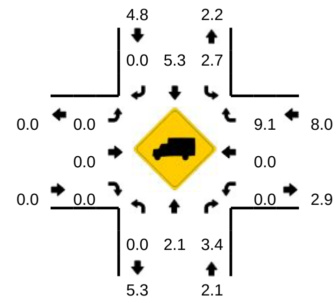
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

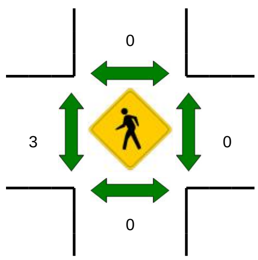
LOCATION: SR 227 -- Kendall Rd | **QC JOB #:** 13607217

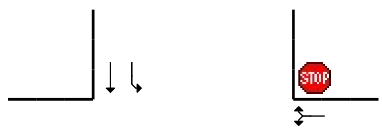
CITY/STATE: San Luis Obispo, CA | **DATE:** Tue, Jan 26 2016

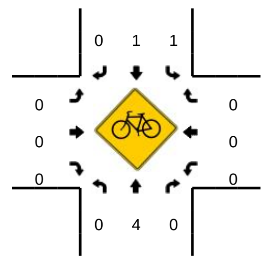


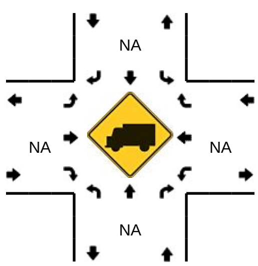
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

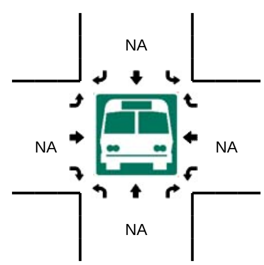












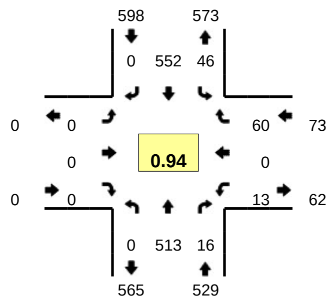
5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Kendall Rd (Eastbound) Left	Thru	Right	U	Kendall Rd (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	0	56	1	0	2	20	0	0	0	0	0	0	0	0	0	0	79	
7:05 AM	0	42	2	0	3	28	0	0	0	0	0	0	0	0	1	0	76	
7:10 AM	0	52	4	0	2	23	0	0	0	0	0	0	1	0	0	0	82	
7:15 AM	0	63	5	0	4	38	0	0	0	0	0	0	0	0	0	0	110	
7:20 AM	0	67	2	0	1	29	0	0	0	0	0	0	0	0	1	0	100	
7:25 AM	0	83	3	0	2	29	0	0	0	0	0	0	0	0	0	0	117	
7:30 AM	0	96	0	0	3	25	0	0	0	0	0	0	0	0	0	0	124	
7:35 AM	0	100	0	0	4	23	0	0	0	0	0	0	0	0	3	0	130	
7:40 AM	0	104	2	0	3	29	0	0	0	0	0	0	1	0	2	0	141	
7:45 AM	0	108	2	0	3	27	0	0	0	0	0	0	0	0	1	0	141	
7:50 AM	0	110	4	0	3	31	0	0	0	0	0	0	0	0	2	0	150	
7:55 AM	0	108	5	0	8	45	0	0	0	0	0	0	0	0	1	0	167	1417
8:00 AM	0	97	8	0	8	44	0	0	0	0	0	0	1	0	1	0	159	1497
8:05 AM	0	101	2	0	5	51	0	0	0	0	0	0	1	0	2	0	162	1583
8:10 AM	0	120	3	0	5	55	0	0	0	0	0	0	0	0	2	0	185	1686
8:15 AM	0	90	3	0	5	48	0	0	0	0	0	0	0	0	2	0	148	1724
8:20 AM	0	101	5	0	9	37	0	0	0	0	0	0	0	0	1	0	153	1777
8:25 AM	0	111	3	0	25	44	0	0	0	0	0	0	0	0	2	0	185	1845
8:30 AM	0	116	5	0	13	28	0	0	0	0	0	0	1	0	3	0	166	1887
8:35 AM	0	99	7	0	17	29	0	0	0	0	0	0	0	0	3	0	155	1912
8:40 AM	0	100	12	0	11	30	0	0	0	0	0	0	0	0	2	0	155	1926
8:45 AM	0	76	14	0	12	28	0	0	0	0	0	0	0	0	1	0	131	1916
8:50 AM	0	102	5	0	13	33	0	0	0	0	0	0	2	0	2	0	157	1923
8:55 AM	0	83	11	0	18	33	0	0	0	0	0	0	1	0	2	0	148	1904

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	1272	52	0	72	600	0	0	0	0	0	0	8	0	20	0	2024
Heavy Trucks	0	16	0		4	20	0		0	0	0		0	0	0		40
Pedestrians		0				0				4				0			4
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

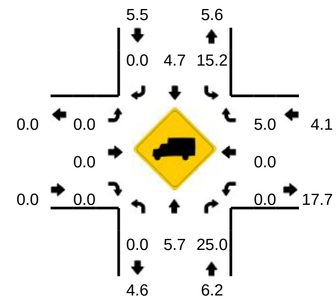
Comments:

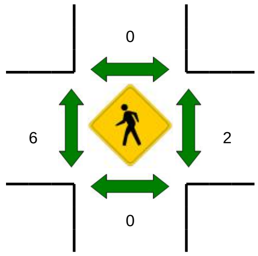
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

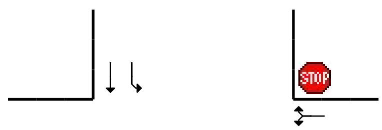
LOCATION: SR 227 -- Kendall Rd | **QC JOB #:** 13607218
CITY/STATE: San Luis Obispo, CA | **DATE:** Tue, Jan 26 2016

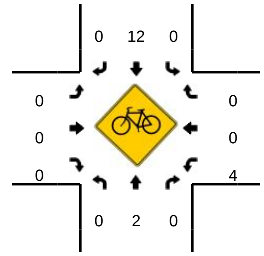


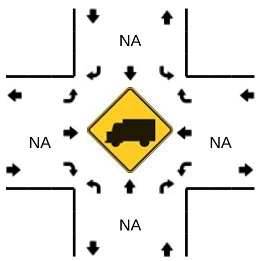
Peak-Hour: 11:45 AM -- 12:45 PM
Peak 15-Min: 11:50 AM -- 12:05 PM

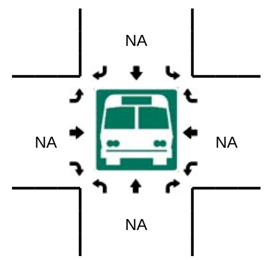












5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Kendall Rd (Eastbound) Left	Thru	Right	U	Kendall Rd (Westbound) Left	Thru	Right	U	Total	Hourly Totals
11:30 AM	0	42	1	0	4	40	0	0	0	0	0	0	1	0	4	0	92	
11:35 AM	0	38	0	0	2	43	0	0	0	0	0	0	0	0	1	0	84	
11:40 AM	0	43	2	0	2	40	0	0	0	0	0	0	3	0	2	0	92	
11:45 AM	0	49	1	0	3	45	0	0	0	0	0	0	3	0	1	0	102	
11:50 AM	0	47	3	0	4	49	0	0	0	0	0	0	1	0	6	0	110	
11:55 AM	0	45	1	0	3	48	0	0	0	0	0	0	1	0	8	0	106	
12:00 PM	0	45	0	0	3	51	0	0	0	0	0	0	1	0	4	0	104	
12:05 PM	0	41	1	0	5	40	0	0	0	0	0	0	1	0	6	0	94	
12:10 PM	0	34	0	0	7	46	0	0	0	0	0	0	2	0	11	0	100	
12:15 PM	0	39	0	0	2	47	0	0	0	0	0	0	2	0	4	0	94	
12:20 PM	0	45	2	0	2	43	0	0	0	0	0	0	0	0	8	0	100	
12:25 PM	0	39	2	0	2	43	0	0	0	0	0	0	0	0	5	0	91	1169
12:30 PM	0	52	1	0	5	38	0	0	0	0	0	0	1	0	0	0	97	1174
12:35 PM	0	44	2	0	7	43	0	0	0	0	0	0	0	0	2	0	98	1188
12:40 PM	0	33	3	0	3	59	0	0	0	0	0	0	1	0	5	0	104	1200
12:45 PM	0	36	5	0	7	45	0	0	0	0	0	0	2	0	3	0	98	1196
12:50 PM	0	44	0	0	5	41	0	0	0	0	0	0	1	0	2	0	93	1179
12:55 PM	0	59	2	0	3	34	0	0	0	0	0	0	0	0	7	0	105	1178
1:00 PM	0	31	2	0	5	47	0	0	0	0	0	0	1	0	6	0	92	1166
1:05 PM	0	43	1	0	4	35	0	0	0	0	0	0	2	0	4	0	89	1161
1:10 PM	0	41	2	0	4	34	0	0	0	0	0	0	0	0	3	0	84	1145
1:15 PM	0	36	0	0	3	44	0	0	0	0	0	0	1	0	1	0	85	1136
1:20 PM	0	53	1	0	3	41	0	0	0	0	0	0	1	0	7	0	106	1142
1:25 PM	0	39	0	0	5	51	0	0	0	0	0	0	1	0	6	0	102	1153

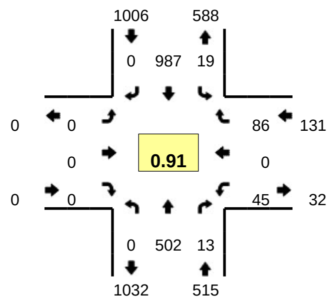
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	548	16	0	40	592	0	0	0	0	0	0	12	0	72	0	1280
Heavy Trucks	0	28	4		8	24	0		0	0	0		0	0	4		68
Pedestrians		0				0				0				8			8
Bicycles	0	1	0		0	5	0		0	0	0		1	0	0		7
Railroad																	
Stopped Buses																	

Comments:

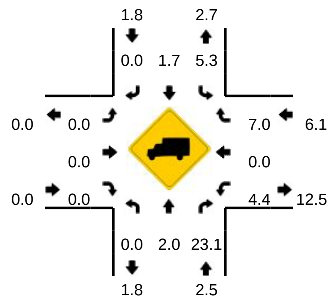
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

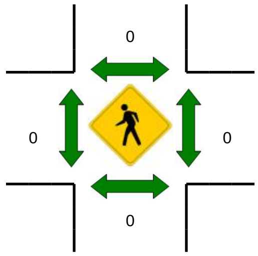
LOCATION: SR 227 -- Kendall Rd | **QC JOB #:** 13607219

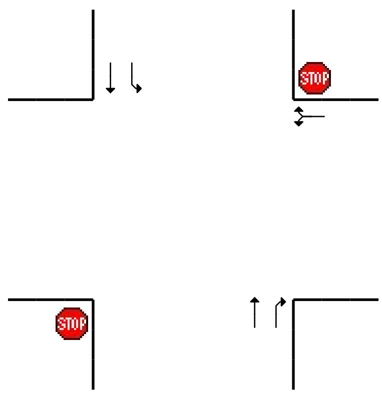
CITY/STATE: San Luis Obispo, CA | **DATE:** Tue, Jan 26 2016

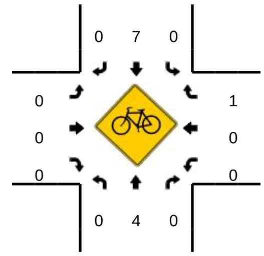


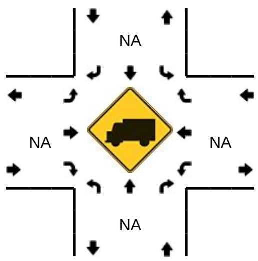
Peak-Hour: 4:05 PM -- 5:05 PM
Peak 15-Min: 4:05 PM -- 4:20 PM

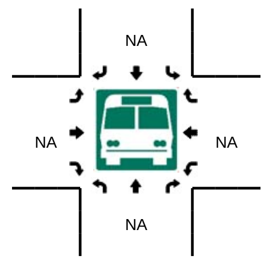












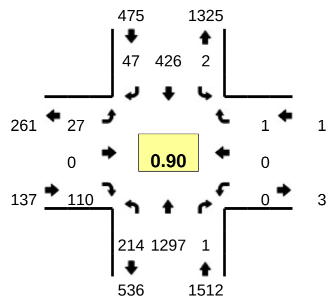
5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Kendall Rd (Eastbound) Left	Thru	Right	U	Kendall Rd (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	0	40	1	0	3	57	0	0	0	0	0	0	6	0	13	0	120	
4:05 PM	0	50	1	0	4	100	0	0	0	0	0	0	3	0	6	0	164	
4:10 PM	0	58	1	0	0	82	0	0	0	0	0	0	4	0	4	0	149	
4:15 PM	0	55	2	0	1	79	0	0	0	0	0	0	2	0	3	0	142	
4:20 PM	0	44	2	0	5	77	0	0	0	0	0	0	1	0	3	0	132	
4:25 PM	0	34	0	0	2	67	0	0	0	0	0	0	3	0	7	0	113	
4:30 PM	0	46	1	0	1	100	0	0	0	0	0	0	4	0	9	0	161	
4:35 PM	0	30	0	0	3	82	0	0	0	0	0	0	8	0	11	0	134	
4:40 PM	0	28	1	0	0	69	0	0	0	0	0	0	3	0	12	0	113	
4:45 PM	0	40	1	0	2	70	0	0	0	0	0	0	4	0	6	0	123	
4:50 PM	0	30	1	0	0	83	0	0	0	0	0	0	3	0	6	0	123	
4:55 PM	0	50	1	0	1	92	0	0	0	0	0	0	4	0	8	0	156	1630
5:00 PM	0	37	2	0	0	86	0	0	0	0	0	0	6	0	11	0	142	1652
5:05 PM	0	34	1	0	1	73	0	0	0	0	0	0	4	0	17	0	130	1618
5:10 PM	0	40	2	0	0	78	0	0	0	0	0	0	3	0	10	0	133	1602
5:15 PM	0	44	1	0	0	69	0	0	0	0	0	0	3	0	8	0	125	1585
5:20 PM	0	36	1	0	2	75	0	0	0	0	0	0	1	0	7	0	122	1575
5:25 PM	0	41	2	0	2	66	0	0	0	0	0	0	5	0	12	0	128	1590
5:30 PM	0	33	3	0	0	78	0	0	0	0	0	0	1	0	9	0	124	1553
5:35 PM	0	32	0	0	0	89	0	0	0	0	0	0	4	0	12	0	137	1556
5:40 PM	0	40	1	0	1	79	0	0	0	0	0	0	2	0	7	0	130	1573
5:45 PM	0	33	2	0	2	83	0	0	0	0	0	0	0	0	4	0	124	1574
5:50 PM	0	46	3	0	1	65	0	0	0	0	0	0	5	0	8	0	128	1579
5:55 PM	0	34	1	0	2	60	0	0	0	0	0	0	2	0	7	0	106	1529

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	0	652	16	0	20	1044	0	0	0	0	0	0	36	0	52	0	1820
Heavy Trucks	0	12	8		0	8	0		0	0	0		0	0	8		36
Pedestrians		0				0				0				0			0
Bicycles	0	2	0		0	3	0		0	0	0		0	0	0		5
Railroad																	
Stopped Buses																	

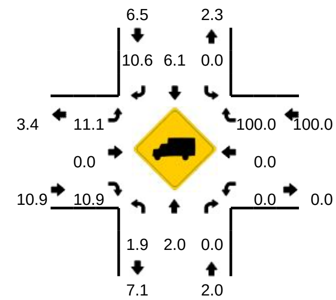
Comments:

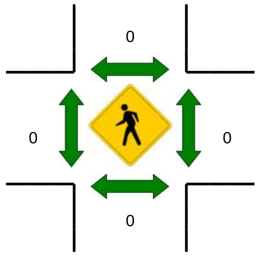
Type of peak hour being reported: Intersection Peak　　Method for determining peak hour: Total Entering Volume

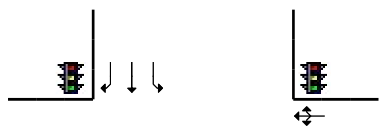
LOCATION: SR 227 -- Buckley Rd　　**QC JOB #:** 13607211
CITY/STATE: San Luis Obispo, CA　　**DATE:** Tue, Jan 26 2016

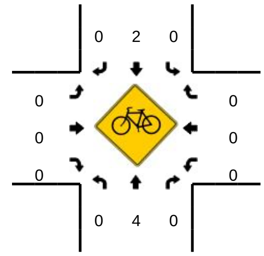


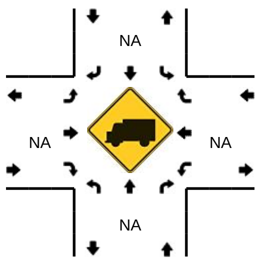
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:05 AM -- 8:20 AM

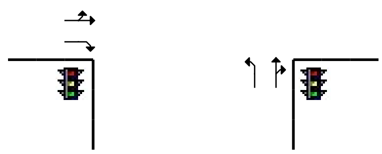


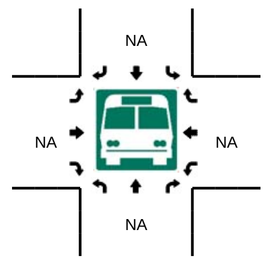












5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Buckley Rd (Eastbound) Left	Thru	Right	U	Buckley Rd (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	5	52	2	0	0	17	0	0	1	1	2	0	0	0	0	0	80	
7:05 AM	7	44	0	0	0	29	1	0	4	0	4	0	0	0	1	0	90	
7:10 AM	11	55	0	0	0	24	0	0	4	0	3	0	0	0	0	0	97	
7:15 AM	8	61	0	0	0	33	2	0	1	0	4	0	0	0	0	0	109	
7:20 AM	9	69	0	0	0	26	3	0	0	0	5	0	0	0	0	0	112	
7:25 AM	19	84	1	0	0	32	2	0	2	0	8	0	0	0	0	0	148	
7:30 AM	13	101	0	0	0	26	0	0	4	0	4	0	1	0	0	0	149	
7:35 AM	19	95	0	0	1	17	0	0	2	0	6	0	1	0	0	0	141	
7:40 AM	16	97	0	0	0	30	2	0	1	0	6	0	0	0	0	0	152	
7:45 AM	14	117	0	0	0	20	7	0	1	0	10	0	0	0	0	0	169	
7:50 AM	20	109	0	0	0	24	7	0	3	0	6	0	0	0	0	0	169	
7:55 AM	16	110	0	0	1	44	4	0	0	0	6	0	0	0	0	0	181	1597
8:00 AM	14	95	0	0	0	38	5	0	4	0	10	0	0	0	0	0	166	1683
8:05 AM	20	111	0	0	0	40	3	0	3	0	8	0	0	0	1	0	186	1779
8:10 AM	22	105	0	0	0	53	2	0	2	0	18	0	0	0	0	0	202	1884
8:15 AM	21	106	0	0	0	52	0	0	2	0	22	0	0	0	0	0	203	1978
8:20 AM	17	97	0	0	1	36	5	0	5	0	6	0	0	0	0	0	167	2033
8:25 AM	20	116	0	0	0	37	5	0	1	0	7	0	0	0	0	0	186	2071
8:30 AM	19	122	0	0	0	27	4	0	3	0	3	0	0	0	0	0	178	2100
8:35 AM	17	103	0	0	0	23	3	0	0	0	7	0	0	0	0	0	153	2112
8:40 AM	14	106	1	0	0	32	2	0	3	0	7	0	0	0	0	0	165	2125
8:45 AM	12	97	0	0	0	26	6	0	1	1	9	0	0	0	0	0	152	2108
8:50 AM	9	107	0	0	0	28	5	0	2	0	5	0	0	0	0	0	156	2095
8:55 AM	10	83	0	0	0	27	3	0	8	0	14	0	0	0	0	0	145	2059

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	252	1288	0	0	0	580	20	0	28	0	192	0	0	0	4	0	2364
Heavy Trucks	8	16	0		0	24	4		0	0	20		0	0	4		76
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	2	0		0	0	0		0	0	0		2
Railroad																	
Stopped Buses																	

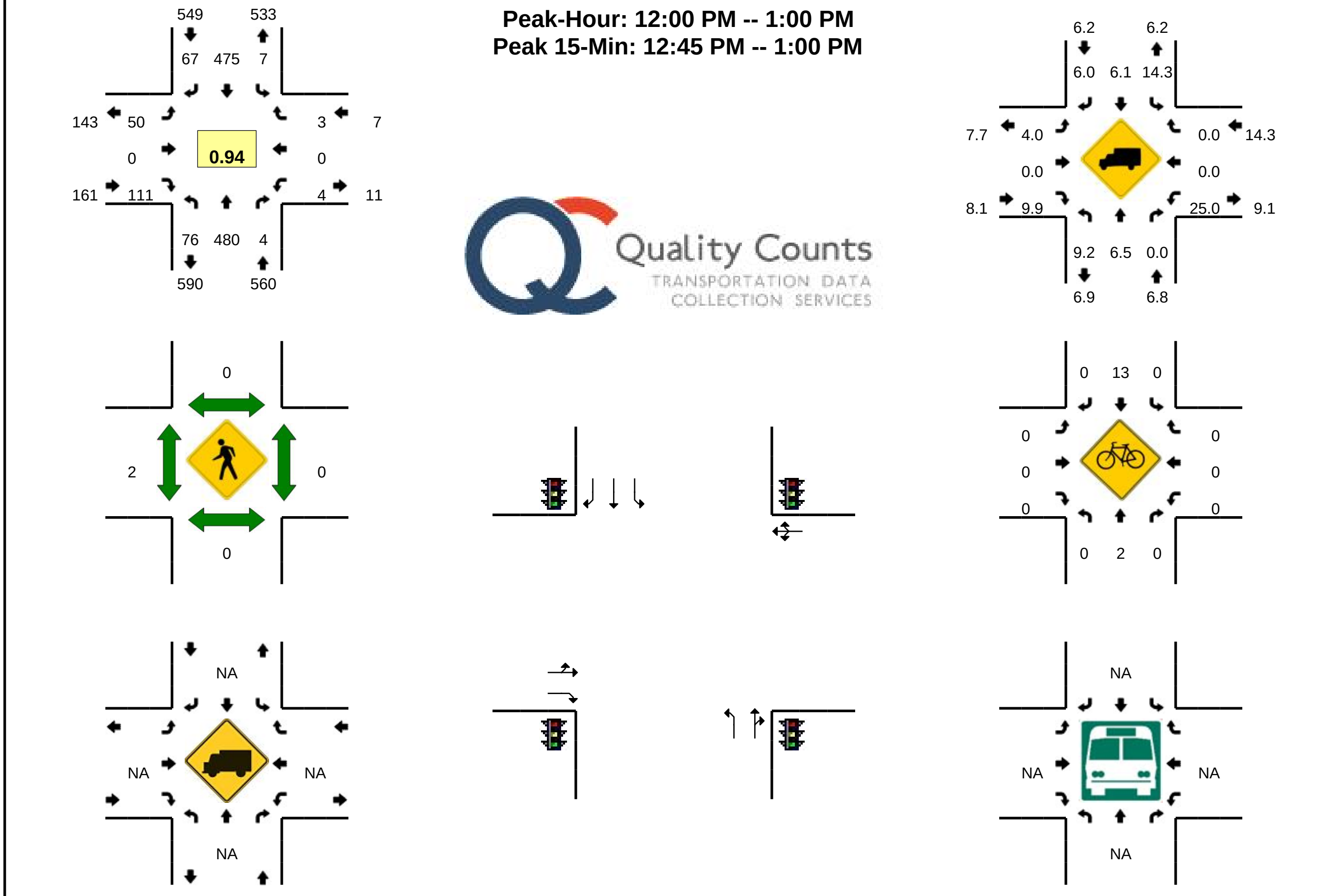
Comments:

Report generated on 2/4/2016 9:00 AM　　SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: SR 227 -- Buckley Rd | **QC JOB #:** 13607212
CITY/STATE: San Luis Obispo, CA | **DATE:** Tue, Jan 26 2016

Peak-Hour: 12:00 PM -- 1:00 PM
Peak 15-Min: 12:45 PM -- 1:00 PM



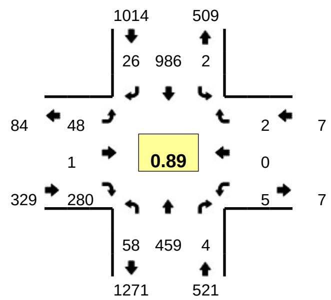
5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Buckley Rd (Eastbound) Left	Thru	Right	U	Buckley Rd (Westbound) Left	Thru	Right	U	Total	Hourly Totals
11:30 AM	8	42	1	0	0	33	4	0	1	0	13	0	0	0	0	0	102	
11:35 AM	7	31	0	0	0	39	3	0	5	0	5	0	0	0	1	0	91	
11:40 AM	2	43	0	0	0	46	1	0	4	0	7	0	1	0	0	0	104	
11:45 AM	4	45	0	0	0	41	4	0	4	0	12	0	0	0	0	0	110	
11:50 AM	5	41	0	0	0	45	8	0	5	0	9	0	0	0	0	0	113	
11:55 AM	7	36	1	0	0	43	1	0	5	0	7	0	0	0	0	0	100	
12:00 PM	6	46	0	0	0	46	4	0	2	0	11	0	1	0	0	0	116	
12:05 PM	11	37	1	0	1	39	6	0	7	0	10	0	0	0	0	0	112	
12:10 PM	7	20	0	0	2	37	5	0	5	0	11	0	0	0	1	0	88	
12:15 PM	6	38	1	0	0	50	5	0	7	0	8	0	0	0	0	0	115	
12:20 PM	4	40	0	0	1	40	4	0	4	0	4	0	0	0	1	0	98	
12:25 PM	3	37	0	0	1	25	11	0	4	0	13	0	0	0	0	0	94	1243
12:30 PM	5	57	0	0	1	34	7	0	3	0	9	0	0	0	1	0	117	1258
12:35 PM	2	40	1	0	0	37	2	0	3	0	10	0	0	0	0	0	95	1262
12:40 PM	8	32	0	0	1	49	5	0	2	0	7	0	0	0	0	0	104	1262
12:45 PM	8	37	1	0	0	45	9	0	6	0	11	0	0	0	0	0	117	1269
12:50 PM	10	46	0	0	0	33	5	0	4	0	7	0	2	0	0	0	107	1263
12:55 PM	6	50	0	0	0	40	4	0	3	0	10	0	1	0	0	0	114	1277
1:00 PM	4	29	0	0	0	36	7	0	4	1	14	0	0	1	0	0	96	1257
1:05 PM	5	37	0	0	0	37	5	0	4	0	12	0	0	0	1	0	101	1246
1:10 PM	12	37	0	0	0	28	3	0	4	0	13	0	0	0	0	0	97	1255
1:15 PM	11	43	0	0	1	37	7	0	4	0	8	0	0	0	0	0	111	1251
1:20 PM	9	40	0	0	0	30	4	0	2	0	13	0	0	0	0	0	98	1251
1:25 PM	3	39	0	0	1	51	8	0	1	0	5	0	0	0	0	0	108	1265

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	96	532	4	0	0	472	72	0	52	0	112	0	12	0	0	0	1352
Heavy Trucks	12	28	0		0	44	0		0	0	8		4	0	0		96
Pedestrians		0				0				0				0			0
Bicycles	0	1	0		0	1	0		0	0	0		0	0	0		2
Railroad																	
Stopped Buses																	

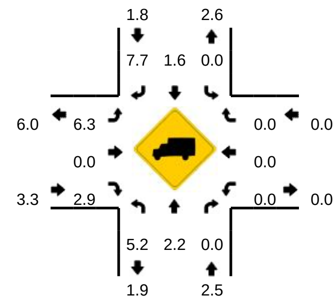
Comments:

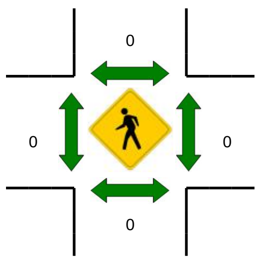
Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

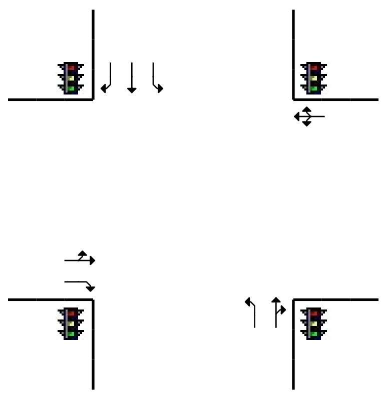
LOCATION: SR 227 -- Buckley Rd — **QC JOB #:** 13607213
CITY/STATE: San Luis Obispo, CA — **DATE:** Tue, Jan 26 2016

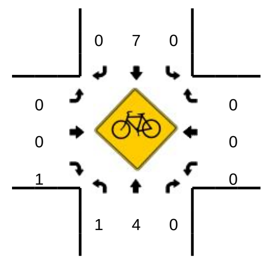


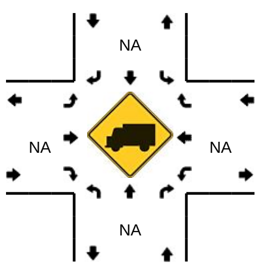
Peak-Hour: 4:05 PM -- 5:05 PM
Peak 15-Min: 4:05 PM -- 4:20 PM

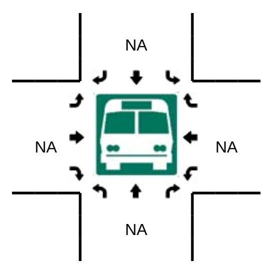












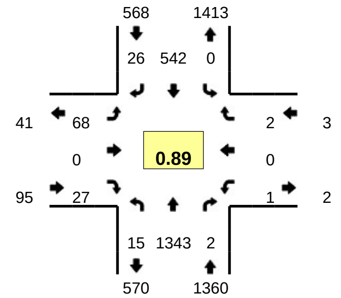
5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Buckley Rd (Eastbound) Left	Thru	Right	U	Buckley Rd (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	5	36	1	0	0	54	1	0	4	0	19	0	0	0	3	0	123	
4:05 PM	4	41	2	0	0	86	5	0	10	0	24	0	1	0	0	0	173	
4:10 PM	9	53	0	0	0	99	1	0	4	0	18	0	0	0	0	0	184	
4:15 PM	6	52	0	0	0	84	1	0	6	0	20	0	0	0	0	0	169	
4:20 PM	5	38	0	0	0	76	3	0	2	1	10	0	0	0	0	0	135	
4:25 PM	3	35	0	0	0	72	2	0	3	0	13	0	0	0	1	0	129	
4:30 PM	5	38	0	0	0	72	1	0	4	0	16	0	1	0	0	0	137	
4:35 PM	4	33	1	0	1	86	1	0	2	0	37	0	0	0	0	0	165	
4:40 PM	4	23	1	0	1	75	2	0	2	0	34	0	0	0	0	0	142	
4:45 PM	2	41	0	0	0	75	4	0	1	0	28	0	0	0	0	0	151	
4:50 PM	4	31	0	0	0	86	2	0	7	0	23	0	1	0	0	0	154	
4:55 PM	7	44	0	0	0	89	2	0	4	0	22	0	1	0	1	0	170	1832
5:00 PM	5	30	0	0	0	86	2	0	3	0	35	0	1	0	0	0	162	1871
5:05 PM	4	39	0	0	1	77	1	0	8	0	33	0	0	0	1	0	164	1862
5:10 PM	4	27	0	0	0	76	2	0	5	0	30	0	0	0	0	0	144	1822
5:15 PM	4	40	1	0	0	76	1	0	3	0	24	0	1	0	0	0	150	1803
5:20 PM	4	41	0	0	0	82	0	0	1	0	26	0	1	0	2	0	157	1825
5:25 PM	2	36	0	0	0	75	1	0	2	0	33	0	0	0	0	0	149	1845
5:30 PM	4	29	0	0	0	91	2	0	3	0	18	0	0	0	0	0	147	1855
5:35 PM	4	29	0	0	0	81	3	0	2	0	14	0	0	0	0	0	133	1823
5:40 PM	4	44	0	0	0	78	3	0	2	0	30	0	0	0	0	0	161	1842
5:45 PM	3	31	0	0	0	69	1	0	3	0	28	0	0	0	0	0	135	1826
5:50 PM	5	46	0	0	0	86	4	0	4	0	14	0	0	0	0	0	159	1831
5:55 PM	3	27	0	0	0	75	1	0	4	0	17	0	0	0	1	0	128	1789

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	76	584	8	0	0	1076	28	0	80	0	248	0	4	0	0	0	2104
Heavy Trucks	8	8	0		0	8	4		8	0	4		0	0	0		40
Pedestrians		0				0				0				0			0
Bicycles	0	2	0		0	2	0		0	0	0		0	0	0		4
Railroad																	
Stopped Buses																	

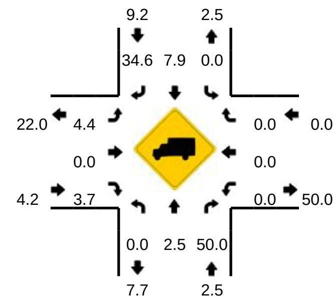
Comments:

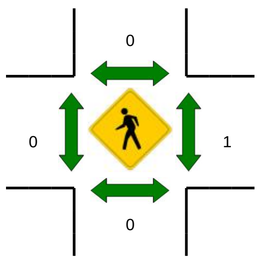
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

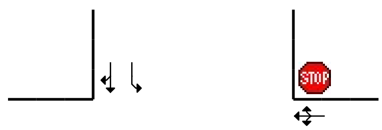
LOCATION: SR 227 -- Crestmont Dr | **QC JOB #:** 13607214
CITY/STATE: San Luis Obispo, CA | **DATE:** Thu, Jan 28 2016

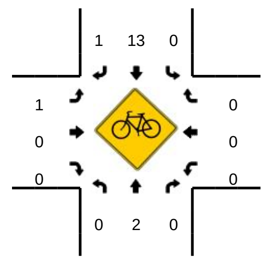


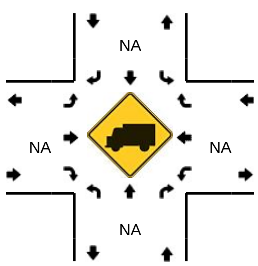
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 8:05 AM -- 8:20 AM

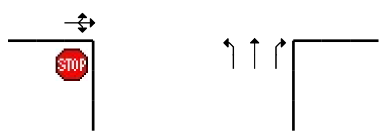


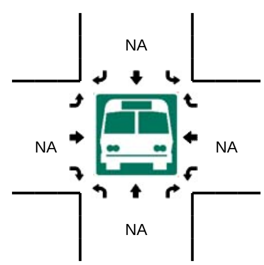












5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Crestmont Dr (Eastbound) Left	Thru	Right	U	Crestmont Dr (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	0	52	1	0	0	19	1	0	0	0	1	0	0	0	0	0	74	
7:05 AM	1	67	1	0	0	25	1	0	5	0	0	0	0	0	0	0	100	
7:10 AM	0	43	0	0	0	32	2	0	2	0	1	0	0	0	0	0	80	
7:15 AM	1	74	0	0	0	22	2	0	4	0	1	0	0	0	0	0	104	
7:20 AM	0	61	1	0	1	29	0	0	3	0	0	0	0	0	1	0	96	
7:25 AM	2	88	0	0	0	23	2	0	5	0	0	0	0	0	1	0	121	
7:30 AM	0	84	0	0	0	30	2	0	7	0	2	0	0	0	0	0	125	
7:35 AM	1	85	0	0	0	24	2	0	8	0	1	0	1	0	1	0	123	
7:40 AM	1	122	0	0	0	38	3	0	13	0	2	0	0	0	0	0	179	
7:45 AM	1	122	0	0	0	47	3	0	9	0	2	0	0	0	0	0	184	
7:50 AM	0	123	2	0	0	35	3	0	8	0	0	0	0	0	0	0	171	
7:55 AM	2	125	0	0	0	38	2	0	3	0	3	0	0	0	0	0	173	1530
8:00 AM	0	97	0	0	0	46	3	0	5	0	1	0	0	0	0	0	152	1608
8:05 AM	0	103	0	0	0	56	4	0	2	0	7	0	0	0	0	0	172	1680
8:10 AM	2	108	0	0	0	78	2	0	6	0	3	0	0	0	0	0	199	1799
8:15 AM	0	118	0	0	0	74	1	0	3	0	2	0	0	0	1	0	199	1894
8:20 AM	0	118	0	0	0	44	0	0	2	0	5	0	0	0	0	0	169	1967
8:25 AM	4	103	0	0	0	32	1	0	5	0	1	0	0	0	0	0	146	1992
8:30 AM	4	119	0	0	0	30	2	0	4	0	0	0	0	0	0	0	159	2026
8:35 AM	1	71	0	0	0	30	1	0	7	0	0	0	0	0	0	0	110	2013
8:40 AM	1	67	1	0	0	23	1	0	3	0	0	0	0	0	0	0	96	1930
8:45 AM	2	76	0	0	0	26	3	0	4	0	2	0	1	0	0	0	114	1860
8:50 AM	0	79	0	0	0	25	1	0	6	0	3	0	0	0	0	0	114	1803
8:55 AM	3	71	0	0	0	28	6	0	5	0	2	0	0	0	0	0	115	1745

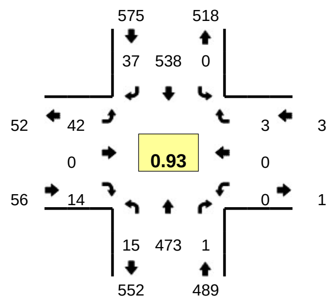
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	8	1316	0	0	0	832	28	0	44	0	48	0	0	0	4	0	2280
Heavy Trucks	0	24	0		0	56	0		0	0	0		0	0	0		80
Pedestrians		0				0				0				0			0
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

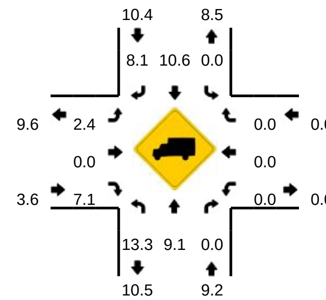
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

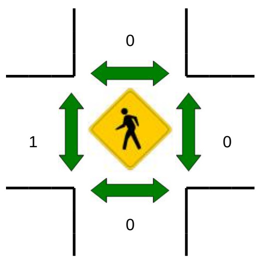
LOCATION: SR 227 -- Crestmont Dr | **QC JOB #:** 13607215

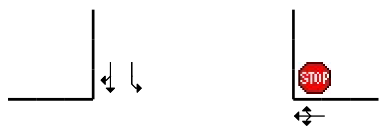
CITY/STATE: San Luis Obispo, CA | **DATE:** Thu, Jan 28 2016

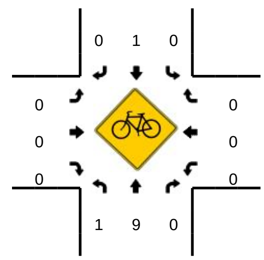


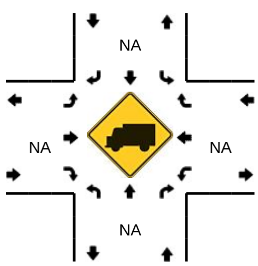
Peak-Hour: 12:30 PM -- 1:30 PM
Peak 15-Min: 1:10 PM -- 1:25 PM

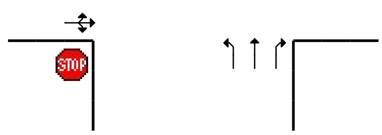


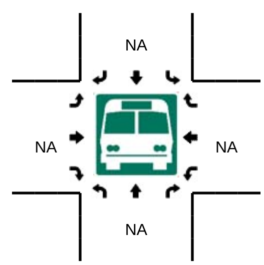












5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Crestmont Dr (Eastbound) Left	Thru	Right	U	Crestmont Dr (Westbound) Left	Thru	Right	U	Total	Hourly Totals
11:30 AM	0	40	0	0	0	33	6	0	4	0	0	0	0	0	0	0	83	
11:35 AM	1	48	0	0	0	34	2	0	3	0	0	0	0	0	0	0	88	
11:40 AM	0	50	0	0	0	44	2	0	4	0	2	0	0	0	0	0	102	
11:45 AM	1	33	0	0	0	42	6	0	3	0	0	0	0	0	0	0	85	
11:50 AM	1	37	0	0	0	41	2	0	2	0	1	0	0	0	0	0	84	
11:55 AM	1	38	1	0	0	49	5	0	4	0	1	0	0	0	0	0	99	
12:00 PM	4	42	0	0	0	57	9	0	2	0	2	0	0	0	0	0	116	
12:05 PM	1	25	0	0	0	41	2	0	1	0	0	0	0	0	0	0	70	
12:10 PM	0	41	0	0	0	39	7	0	2	0	2	0	0	0	0	0	91	
12:15 PM	1	41	0	0	0	63	2	0	4	0	0	0	0	0	0	0	111	
12:20 PM	1	33	0	0	0	51	5	0	3	0	0	0	0	0	0	0	93	
12:25 PM	0	33	1	0	0	40	2	0	0	0	0	0	0	0	0	0	76	1098
12:30 PM	2	48	0	0	0	41	3	0	1	0	1	0	0	0	0	0	96	1111
12:35 PM	0	40	0	0	0	47	5	0	3	0	1	0	0	0	0	0	96	1119
12:40 PM	3	27	0	0	0	35	1	0	3	0	0	0	0	0	2	0	71	1088
12:45 PM	0	35	0	0	0	44	2	0	5	0	3	0	0	0	0	0	89	1092
12:50 PM	2	41	0	0	0	37	4	0	5	0	0	0	0	0	0	0	89	1097
12:55 PM	2	39	0	0	0	51	6	0	4	0	3	0	0	0	0	0	105	1103
1:00 PM	2	51	0	0	0	36	5	0	4	0	1	0	0	0	0	0	99	1086
1:05 PM	0	28	1	0	0	46	4	0	5	0	3	0	0	0	0	0	87	1103
1:10 PM	0	47	0	0	0	40	2	0	7	0	0	0	0	0	0	0	96	1108
1:15 PM	1	38	0	0	0	50	2	0	2	0	1	0	0	0	1	0	95	1092
1:20 PM	3	41	0	0	0	63	2	0	0	0	1	0	0	0	0	0	110	1109
1:25 PM	0	38	0	0	0	48	1	0	3	0	0	0	0	0	0	0	90	1123

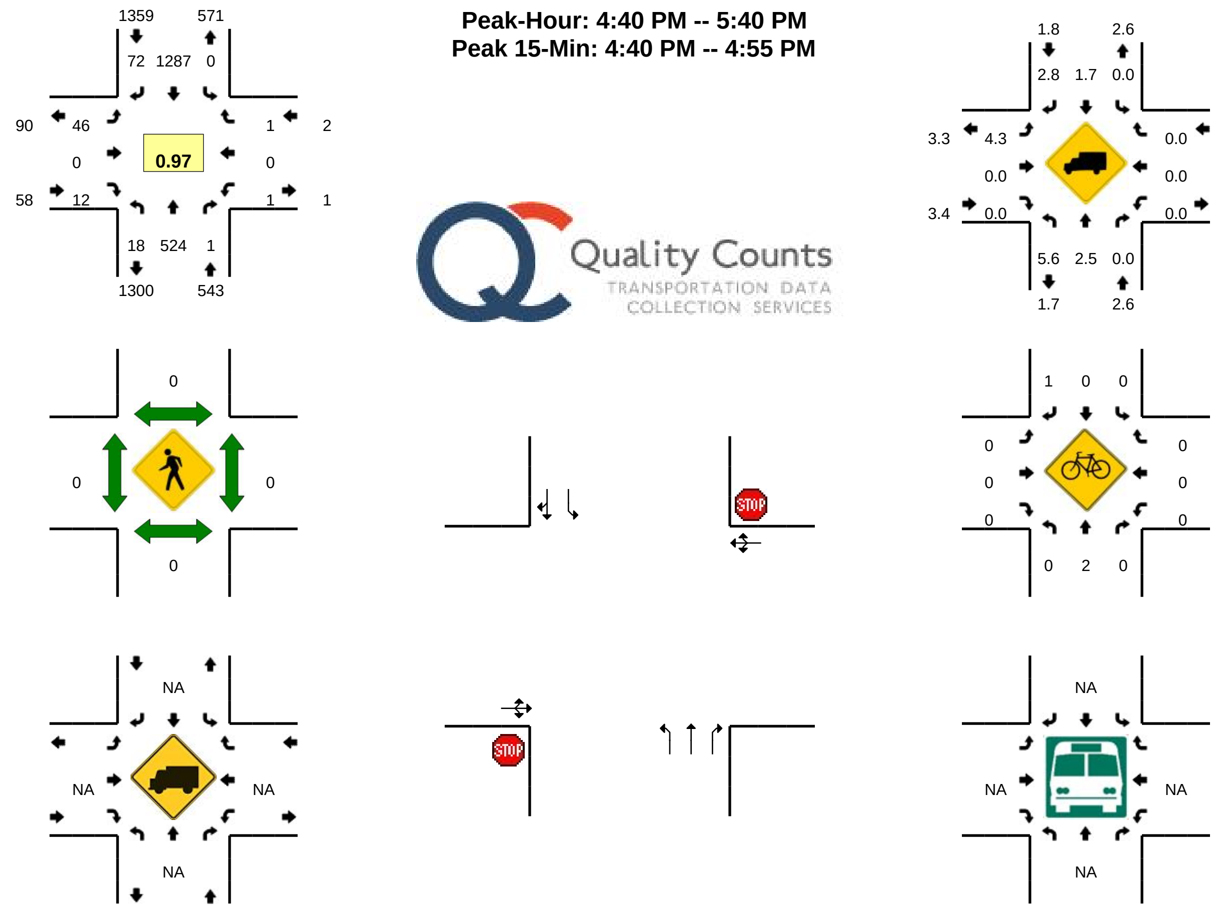
Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	16	504	0	0	0	612	24	0	36	0	8	0	0	0	4	0	1204
Heavy Trucks	8	56	0		0	88	4		0	0	0		0	0	0		156
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

LOCATION: SR 227 -- Crestmont Dr — **QC JOB #:** 13607216
CITY/STATE: San Luis Obispo, CA — **DATE:** Thu, Jan 28 2016

Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 4:40 PM -- 4:55 PM



5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Crestmont Dr (Eastbound) Left	Thru	Right	U	Crestmont Dr (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	0	43	0	0	0	89	6	0	6	0	2	0	0	0	0	0	146	
4:05 PM	3	58	0	0	0	100	4	0	6	0	1	0	0	0	0	0	172	
4:10 PM	2	41	0	0	0	102	8	0	5	0	2	0	0	0	0	0	160	
4:15 PM	2	33	0	0	0	114	8	0	5	0	1	0	0	0	0	0	163	
4:20 PM	1	43	0	0	0	101	5	0	7	0	0	0	0	0	0	0	157	
4:25 PM	0	45	0	0	0	86	3	0	4	0	0	0	0	0	0	0	138	
4:30 PM	0	37	0	0	0	94	3	0	4	0	3	0	1	0	0	0	142	
4:35 PM	0	27	0	0	0	115	5	0	0	0	1	0	0	0	0	0	148	
4:40 PM	2	42	0	0	0	112	10	0	4	0	1	0	0	0	0	0	171	
4:45 PM	3	52	0	0	0	109	5	0	5	0	4	0	0	0	0	0	178	
4:50 PM	3	39	0	0	0	103	5	0	6	0	2	0	0	0	0	0	158	
4:55 PM	0	45	0	0	0	97	3	0	3	0	0	0	0	0	0	0	148	1881
5:00 PM	0	50	0	0	0	112	4	0	6	0	1	0	0	0	0	0	173	1908
5:05 PM	1	43	0	0	0	113	4	0	3	0	1	0	0	0	0	0	165	1901
5:10 PM	2	49	0	0	0	104	6	0	2	0	0	0	0	0	0	0	163	1904
5:15 PM	0	37	1	0	0	113	4	0	2	0	1	0	0	0	0	0	158	1899
5:20 PM	1	43	0	0	0	106	8	0	2	0	0	0	1	0	0	0	161	1903
5:25 PM	2	45	0	0	0	107	8	0	6	0	1	0	0	0	1	0	170	1935
5:30 PM	2	30	0	0	0	106	7	0	2	0	1	0	0	0	0	0	148	1941
5:35 PM	2	49	0	0	0	105	8	0	5	0	0	0	0	0	0	0	169	1962
5:40 PM	1	29	0	0	0	99	8	0	4	0	0	0	0	0	0	0	141	1932
5:45 PM	2	37	0	0	0	67	4	0	3	0	1	0	0	0	0	0	114	1868
5:50 PM	1	50	0	0	0	70	6	0	3	0	2	0	0	0	0	0	132	1842
5:55 PM	1	32	0	0	0	77	4	0	2	0	1	0	0	0	0	0	117	1811

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	32	532	0	0	0	1296	80	0	60	0	28	0	0	0	0	0	2028
Heavy Trucks	0	12	0		0	44	4		0	0	0		0	0	0		60
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/4/2016 9:00 AM — SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

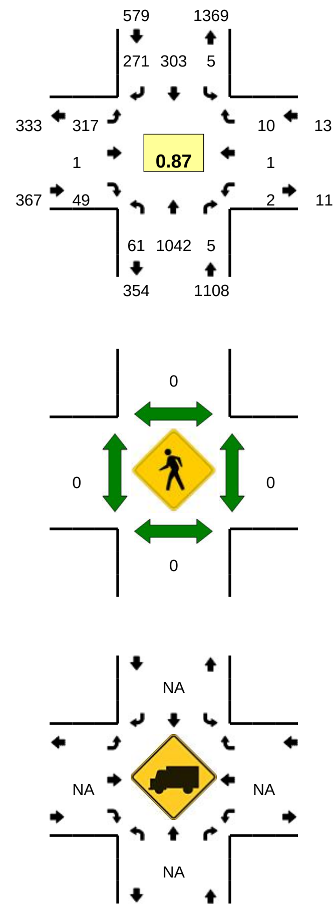
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

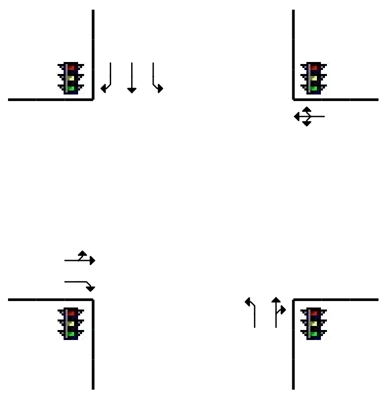
LOCATION: SR 227 -- Los Ranchos Rd | **QC JOB #:** 13607223

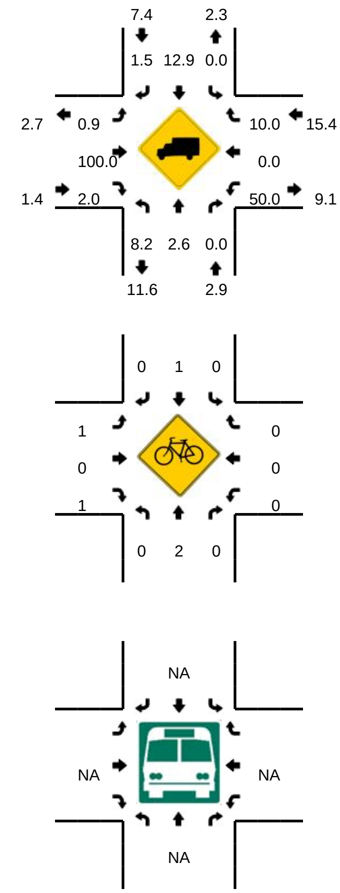
CITY/STATE: San Luis Obispo, CA | **DATE:** Wed, Jan 27 2016

Peak-Hour: 7:35 AM -- 8:35 AM

Peak 15-Min: 8:10 AM -- 8:25 AM







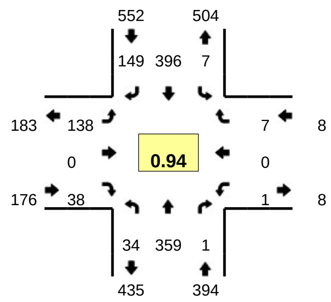
5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Los Ranchos Rd (Eastbound) Left	Thru	Right	U	Los Ranchos Rd (Westbound) Left	Thru	Right	U	Total	Hourly Totals
7:00 AM	3	56	0	0	0	21	5	0	3	0	1	0	0	0	0	0	89	
7:05 AM	4	39	0	0	0	21	6	0	7	0	1	0	0	0	0	0	78	
7:10 AM	1	47	0	0	0	28	5	0	6	0	0	0	0	0	1	0	88	
7:15 AM	2	60	0	0	0	20	3	0	11	0	2	0	0	0	1	0	99	
7:20 AM	1	77	1	0	2	23	7	0	5	0	0	0	0	0	0	0	116	
7:25 AM	4	76	2	0	1	22	4	0	15	1	1	0	0	0	0	0	126	
7:30 AM	6	59	1	0	4	19	10	0	15	0	2	0	0	0	1	0	117	
7:35 AM	2	68	2	0	0	37	4	0	21	0	2	0	0	0	1	0	137	
7:40 AM	2	85	0	0	2	24	5	0	29	0	1	0	0	0	0	0	148	
7:45 AM	4	105	1	0	0	30	8	0	16	1	1	0	0	0	1	0	167	
7:50 AM	3	106	0	0	0	27	10	0	15	0	5	0	0	0	1	0	167	
7:55 AM	7	99	1	0	2	28	24	0	10	0	3	0	0	0	1	0	175	1507
8:00 AM	5	97	0	0	0	19	17	0	14	0	3	0	0	0	1	0	156	1574
8:05 AM	8	103	0	0	0	22	34	0	18	0	4	0	2	0	0	0	191	1687
8:10 AM	11	86	0	0	1	21	50	0	24	0	5	0	0	1	1	0	200	1799
8:15 AM	8	77	1	0	0	24	54	0	29	0	4	0	0	0	1	0	198	1898
8:20 AM	6	78	0	0	0	21	36	0	42	0	8	0	0	0	2	0	193	1975
8:25 AM	1	60	0	0	0	23	17	0	62	0	9	0	0	0	1	0	173	2022
8:30 AM	4	78	0	0	0	27	12	0	37	0	4	0	0	0	0	0	162	2067
8:35 AM	3	52	0	0	0	32	11	0	14	0	2	0	0	0	0	0	114	2044
8:40 AM	4	51	0	0	0	25	5	0	17	0	2	0	0	0	0	0	104	2000
8:45 AM	2	68	0	0	0	26	6	0	19	0	3	0	0	0	0	0	124	1957
8:50 AM	3	84	0	0	1	17	10	0	9	0	5	0	0	0	0	0	129	1919
8:55 AM	4	68	0	0	0	18	12	0	8	0	2	0	0	0	1	0	113	1857

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	100	964	4	0	4	264	560	0	380	0	68	0	0	4	16	0	2364
Heavy Trucks	4	32	0		0	28	8		8	0	0		0	0	0		80
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

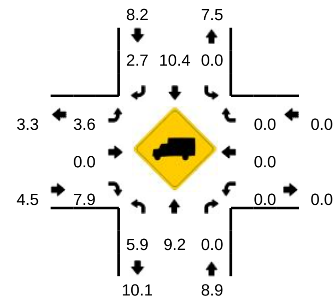
Comments:

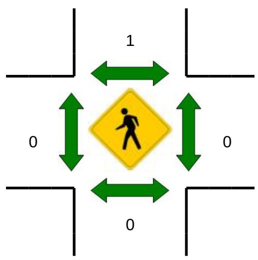
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

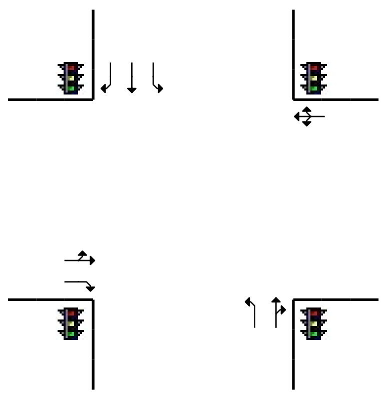
LOCATION: SR 227 -- Los Ranchos Rd | **QC JOB #:** 13607224
CITY/STATE: San Luis Obispo, CA | **DATE:** Wed, Jan 27 2016

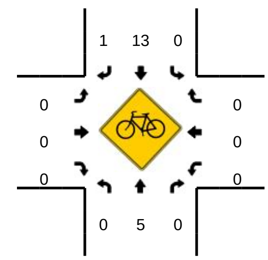


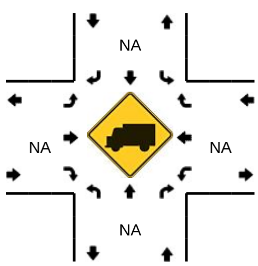
Peak-Hour: 11:40 AM -- 12:40 PM
Peak 15-Min: 11:40 AM -- 11:55 AM

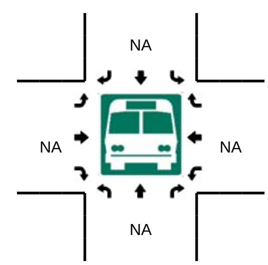












5-Min Count Period Beginning At	SR 227 (Northbound)				SR 227 (Southbound)				Los Ranchos Rd (Eastbound)				Los Ranchos Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
11:30 AM	4	26	0	0	1	25	11	0	14	0	5	0	0	0	5	0	91	
11:35 AM	3	18	0	0	1	26	6	0	13	0	1	0	0	0	0	0	68	
11:40 AM	6	41	0	0	0	47	7	0	13	0	2	0	0	0	0	0	116	
11:45 AM	2	26	0	0	1	41	11	0	17	0	1	0	0	0	0	0	99	
11:50 AM	1	28	0	0	0	27	21	0	9	0	0	0	0	0	1	0	87	
11:55 AM	8	40	0	0	0	28	12	0	10	0	6	0	0	0	1	0	105	
12:00 PM	3	22	0	0	1	43	11	0	7	0	0	0	1	0	0	0	88	
12:05 PM	4	27	0	0	0	28	10	0	16	0	2	0	0	0	1	0	88	
12:10 PM	2	38	0	0	0	29	13	0	12	0	5	0	0	0	1	0	100	
12:15 PM	3	25	1	0	1	31	9	0	4	0	4	0	0	0	1	0	79	
12:20 PM	1	31	0	0	1	38	11	0	11	0	5	0	0	0	1	0	99	
12:25 PM	2	32	0	0	2	32	21	0	12	0	2	0	0	0	1	0	104	1124
12:30 PM	0	27	0	0	0	26	15	0	18	0	2	0	0	0	0	0	88	1121
12:35 PM	2	22	0	0	1	26	8	0	9	0	9	0	0	0	0	0	77	1130
12:40 PM	2	30	0	0	1	33	12	0	12	0	3	0	0	0	0	0	93	1107
12:45 PM	1	13	0	0	0	28	9	0	15	0	4	0	0	0	0	0	70	1078
12:50 PM	3	37	1	0	0	47	8	0	7	0	1	0	0	0	1	0	105	1096
12:55 PM	1	20	0	0	1	26	12	0	9	1	2	0	0	0	1	0	73	1064
1:00 PM	2	46	0	0	0	29	22	0	6	0	2	0	0	0	0	0	107	1083
1:05 PM	0	28	0	0	0	44	11	0	13	0	5	0	0	0	0	0	101	1096
1:10 PM	1	40	0	0	0	41	15	0	6	0	1	0	0	0	2	0	106	1102
1:15 PM	1	30	0	0	0	39	6	0	14	0	1	0	0	0	0	0	91	1114
1:20 PM	2	29	0	0	0	38	7	0	12	0	4	0	0	0	0	0	92	1107
1:25 PM	4	33	0	0	3	46	8	0	9	0	0	0	0	0	0	0	103	1106

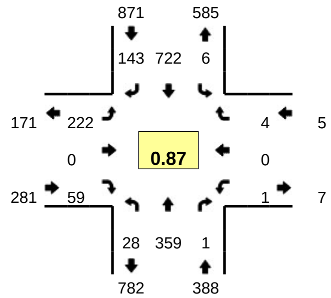
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	36	380	0	0	4	460	156	0	156	0	12	0	0	0	4	0	1208
Heavy Trucks	0	36	0		0	56	4		8	0	4		0	0	0		108
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	2	1		0	0	0		0	0	0		3
Railroad																	
Stopped Buses																	

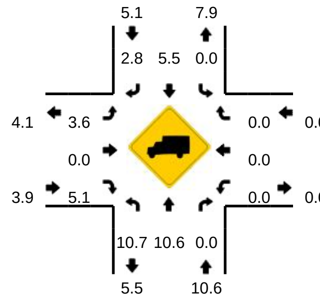
Comments:

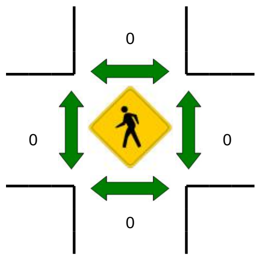
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

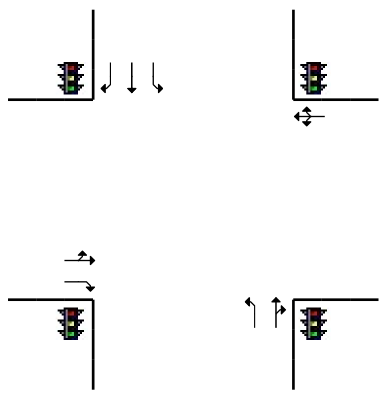
LOCATION: SR 227 -- Los Ranchos Rd **QC JOB #:** 13607225
CITY/STATE: San Luis Obispo, CA **DATE:** Wed, Jan 27 2016

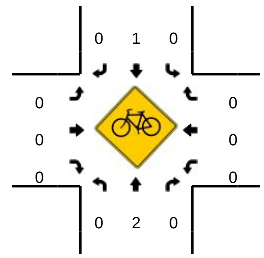
Peak-Hour: 2:55 PM -- 3:55 PM
Peak 15-Min: 2:55 PM -- 3:10 PM

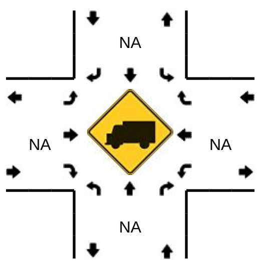


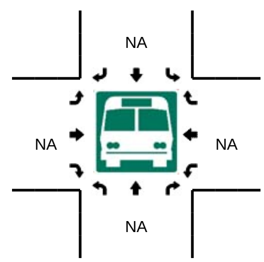












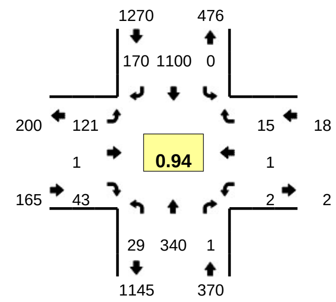
5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Los Ranchos Rd (Eastbound) Left	Thru	Right	U	Los Ranchos Rd (Westbound) Left	Thru	Right	U	Total	Hourly Totals
2:00 PM	1	28	0	0	0	50	6	0	6	0	6	0	0	0	0	0	97	
2:05 PM	1	29	0	0	1	42	9	0	8	0	2	0	0	0	1	0	93	
2:10 PM	1	23	0	0	1	43	12	0	13	0	4	0	0	0	1	0	98	
2:15 PM	3	30	0	0	0	47	13	0	11	0	1	0	0	0	0	0	105	
2:20 PM	4	35	0	0	0	35	12	0	10	0	4	0	0	0	0	0	100	
2:25 PM	3	37	0	0	0	43	15	0	8	0	5	0	0	0	0	0	111	
2:30 PM	3	33	0	0	0	37	15	0	8	0	0	0	0	0	0	0	96	
2:35 PM	1	33	0	0	3	33	22	0	9	1	2	0	0	0	0	0	104	
2:40 PM	2	33	0	0	1	53	27	0	11	0	2	0	1	0	0	0	130	
2:45 PM	7	37	0	0	1	40	34	0	5	0	0	0	1	0	0	0	125	
2:50 PM	5	19	0	0	1	40	30	0	19	0	3	0	1	0	0	0	118	
2:55 PM	0	19	0	0	1	49	19	0	43	0	8	0	0	0	0	0	139	1316
3:00 PM	3	49	0	0	0	51	8	0	45	0	3	0	0	0	0	0	159	1378
3:05 PM	2	31	0	0	0	53	11	0	34	0	13	0	0	0	1	0	145	1430
3:10 PM	9	28	0	0	0	48	8	0	15	0	1	0	0	0	1	0	110	1442
3:15 PM	0	15	0	0	1	60	6	0	10	0	1	0	0	0	0	0	93	1430
3:20 PM	2	39	0	0	1	47	13	0	9	0	2	0	0	0	1	0	114	1444
3:25 PM	3	31	0	0	2	56	14	0	12	0	7	0	0	0	0	0	125	1458
3:30 PM	0	32	0	0	0	54	12	0	8	0	6	0	0	0	0	0	112	1474
3:35 PM	1	15	0	0	0	82	12	0	9	0	6	0	0	0	0	0	125	1495
3:40 PM	4	40	0	0	1	91	11	0	8	0	5	0	1	0	0	0	161	1526
3:45 PM	2	21	0	0	0	65	12	0	16	0	5	0	0	0	0	0	121	1522
3:50 PM	2	39	1	0	0	66	17	0	13	0	2	0	0	0	1	0	141	1545
3:55 PM	4	19	0	0	0	76	13	0	4	0	3	0	0	0	1	0	120	1526

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	20	396	0	0	4	612	152	0	488	0	96	0	0	0	4	0	1772
Heavy Trucks	4	48	0		0	24	0		12	0	0		0	0	0		88
Pedestrians		0				0				0				0			0
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

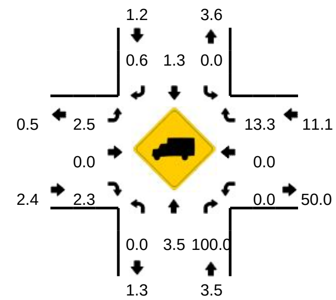
Comments:

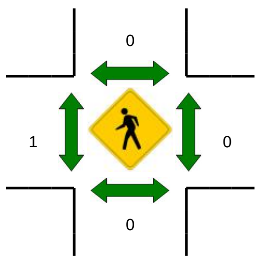
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

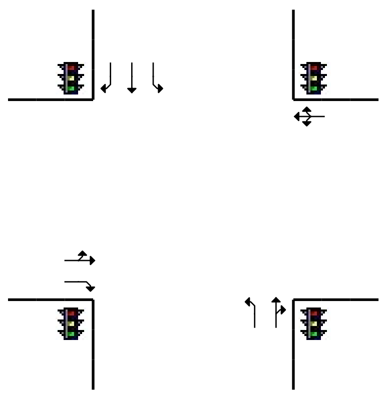
LOCATION: SR 227 -- Los Ranchos Rd | **QC JOB #:** 13607226
CITY/STATE: San Luis Obispo, CA | **DATE:** Tue, Jan 27 2015

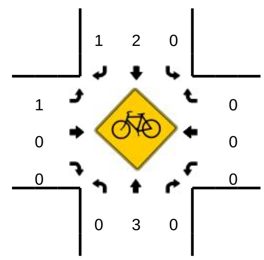


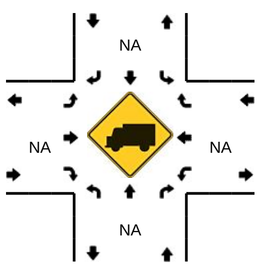
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:35 PM -- 4:50 PM

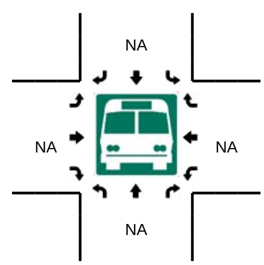












5-Min Count Period Beginning At	SR 227 (Northbound) Left	Thru	Right	U	SR 227 (Southbound) Left	Thru	Right	U	Los Ranchos Rd (Eastbound) Left	Thru	Right	U	Los Ranchos Rd (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	2	41	0	0	0	80	17	0	19	0	4	0	1	0	1	0	165	
4:05 PM	4	26	0	0	0	79	13	0	15	0	3	0	1	0	1	0	142	
4:10 PM	4	32	0	0	0	106	10	0	11	0	3	0	1	0	0	0	167	
4:15 PM	1	31	1	0	0	74	14	0	16	0	2	0	0	0	0	0	139	
4:20 PM	5	28	0	0	0	81	7	1	12	1	3	0	1	1	0	0	140	
4:25 PM	2	37	1	0	0	69	14	0	8	0	6	0	0	0	0	0	137	
4:30 PM	1	33	0	0	0	83	14	0	10	0	10	0	0	0	0	0	151	
4:35 PM	4	24	0	0	0	104	14	0	12	0	3	0	0	0	1	0	162	
4:40 PM	3	31	0	0	0	97	15	0	13	0	4	0	0	0	0	0	163	
4:45 PM	0	27	0	0	0	105	18	0	7	0	2	0	0	0	3	0	162	
4:50 PM	3	19	0	0	0	77	14	0	9	0	4	0	0	0	3	0	129	
4:55 PM	4	28	0	0	0	71	13	0	13	0	0	0	0	0	2	0	131	1788
5:00 PM	2	41	0	0	0	99	8	0	7	0	1	0	0	1	3	0	162	1785
5:05 PM	2	25	0	0	0	96	14	0	10	0	5	0	1	0	0	0	153	1796
5:10 PM	3	22	1	0	0	101	10	0	11	1	3	0	0	0	2	0	154	1783
5:15 PM	3	34	0	0	0	95	12	0	10	0	4	0	0	0	0	0	158	1802
5:20 PM	3	31	0	0	0	86	13	0	12	0	2	0	1	0	1	0	149	1811
5:25 PM	1	25	0	0	0	86	25	0	7	0	5	0	0	0	0	0	149	1823
5:30 PM	2	24	0	0	0	80	17	0	7	0	2	0	0	0	0	0	132	1804
5:35 PM	0	25	0	0	0	92	16	0	5	0	2	0	1	0	1	0	142	1784
5:40 PM	0	29	0	0	0	86	15	0	14	0	4	0	0	0	0	0	148	1769
5:45 PM	8	19	0	0	0	74	12	0	8	0	2	0	0	0	0	0	123	1730
5:50 PM	1	29	1	0	0	46	7	1	13	0	4	0	0	0	0	0	102	1703
5:55 PM	2	17	0	0	0	50	12	0	12	0	1	0	0	0	1	0	95	1667

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	28	328	0	0	0	1224	188	0	128	0	36	0	0	0	16	0	1948
Heavy Trucks	0	8	0		0	12	0		0	0	0		0	0	0		20
Pedestrians		0				0				0				0			0
Bicycles	0	2	0		0	0	1		0	0	0		0	0	0		3
Railroad																	
Stopped Buses																	

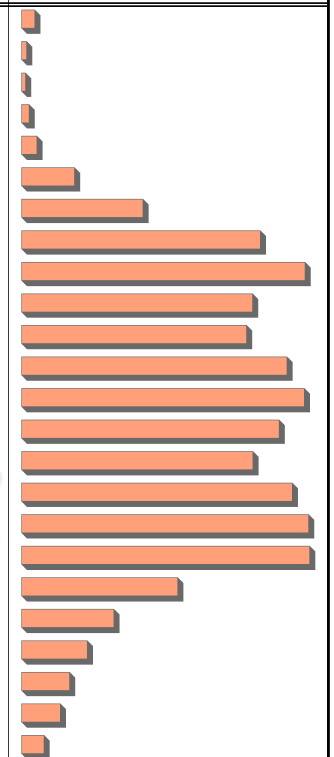
Comments:

LOCATION: SR-227 just south of Tank Farm Rd
SPECIFIC LOCATION: SR-227 just south of Tank Farm Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607201
DIRECTION: NB
DATE: Jan 26 2016 - Jan 31 2016

Start Time	Mon	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic
12:00 AM		22	19	22	27	23	83	49	37
1:00 AM		8	22	15	12	14	13	16	14
2:00 AM		11	10	5	9	9	17	11	11
3:00 AM		22	23	24	26	24	21	11	21
4:00 AM		59	50	43	50	51	33	23	43
5:00 AM		186	189	179	179	183	95	67	149
6:00 AM		476	477	462	442	464	124	70	342
7:00 AM		964	960	929	922	944	170	93	673
8:00 AM		**1214**	**1073**	**1014**	**976**	**1069**	335	182	**799**
9:00 AM		764	754	826	831	794	484	246	651
10:00 AM		704	721	745	756	732	518	360	634
11:00 AM		901	886	862	891	885	**571**	**375**	748
12:00 PM		902	899	893	982	919	**613**	**491**	797
1:00 PM		802	820	886	838	837	581	426	726
2:00 PM		723	705	748	788	741	524	421	652
3:00 PM		907	933	957	916	928	491	372	763
4:00 PM		987	960	1018	**1022**	997	500	367	809
5:00 PM		**1044**	**1063**	**1078**	951	**1034**	416	318	**812**
6:00 PM		500	523	522	549	524	291	252	440
7:00 PM		300	296	291	318	301	206	150	260
8:00 PM		199	174	217	194	196	178	150	185
9:00 PM		93	139	156	181	142	136	107	135
10:00 PM		72	74	95	177	105	138	97	109
11:00 PM		56	38	56	127	69	80	23	63
Day Total		11916	11808	12043	12164	11985	6618	4677	9873
% Weekday Average		99.4%	98.5%	100.5%	101.5%				
% Week Average		120.7%	119.6%	122.0%	123.2%	121.4%	67.0%	47.4%	
AM Peak		8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM
Volume		1214	1073	1014	976	1069	571	375	799
PM Peak		5:00 PM	5:00 PM	5:00 PM	4:00 PM	5:00 PM	12:00 PM	12:00 PM	5:00 PM
Volume		1044	1063	1078	1022	1034	613	491	812

Average Week Profile

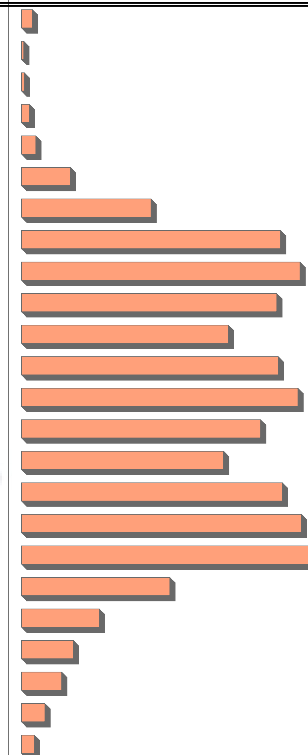


Comments:

LOCATION: SR-227 just south of Tank Farm Rd
SPECIFIC LOCATION: SR-227 just south of Tank Farm Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607201
DIRECTION: NB
DATE: Feb 01 2016 - Feb 01 2016

Start Time	Mon 01-Feb-16	Tue	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM	38					38			38	
1:00 AM	8					8			8	
2:00 AM	10					10			10	
3:00 AM	27					27			27	
4:00 AM	49					49			49	
5:00 AM	167					167			167	
6:00 AM	441					441			441	
7:00 AM	882					882			882	
8:00 AM	**948**					**948**			**948**	
9:00 AM	869					869			869	
10:00 AM	704					704			704	
11:00 AM	874					874			874	
12:00 PM	941					941			941	
1:00 PM	814					814			814	
2:00 PM	688					688			688	
3:00 PM	888					888			888	
4:00 PM	953					953			953	
5:00 PM	**980**					**980**			**980**	
6:00 PM	505					505			505	
7:00 PM	265					265			265	
8:00 PM	177					177			177	
9:00 PM	137					137			137	
10:00 PM	80					80			80	
11:00 PM	44					44			44	
Day Total	11489					11489			11489	
% Weekday Average	95.9%									
% Week Average	116.4%					100.0%				
AM Peak Volume	8:00 AM 948					8:00 AM 948			8:00 AM 948	
PM Peak Volume	5:00 PM 980					5:00 PM 980			5:00 PM 980	



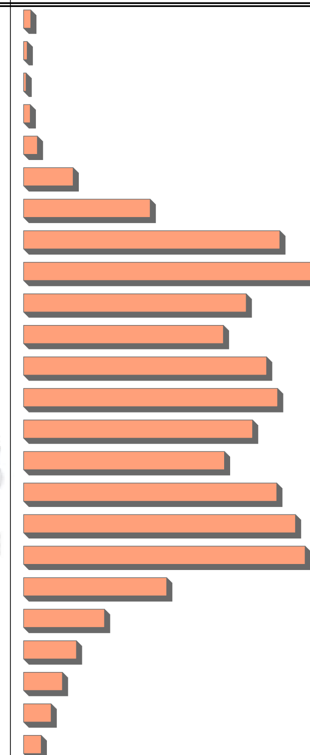
Comments:

SUMMARY - Tube Count - Volume Data (Weekday)

LOCATION: SR-227 just south of Tank Farm Rd
SPECIFIC LOCATION: SR-227 just south of Tank Farm Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607201
DIRECTION: NB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic			Average Weekday Profile
12:00 AM	38	22	19	22	27	26			
1:00 AM	8	8	22	15	12	13			
2:00 AM	10	11	10	5	9	9			
3:00 AM	27	22	23	24	26	24			
4:00 AM	49	59	50	43	50	50			
5:00 AM	167	186	189	179	179	180			
6:00 AM	441	476	477	462	442	460			
7:00 AM	882	964	960	929	922	931			
8:00 AM	**948**	**1214**	**1073**	**1014**	**976**	**1045**			
9:00 AM	869	764	754	826	831	809			
10:00 AM	704	704	721	745	756	726			
11:00 AM	874	901	886	862	891	883			
12:00 PM	941	902	899	893	982	923			
1:00 PM	814	802	820	886	838	832			
2:00 PM	688	723	705	748	788	730			
3:00 PM	888	907	933	957	916	920			
4:00 PM	953	987	960	1018	**1022**	988			
5:00 PM	**980**	**1044**	**1063**	**1078**	951	**1023**			
6:00 PM	505	500	523	522	549	520			
7:00 PM	265	300	296	291	318	294			
8:00 PM	177	199	174	217	194	192			
9:00 PM	137	93	139	156	181	141			
10:00 PM	80	72	74	95	177	100			
11:00 PM	44	56	38	56	127	64			
Day Total	11489	11916	11808	12043	12164	11883			
% Weekday Average	96.7%	100.3%	99.4%	101.3%	102.4%				
% Week Average									
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM			
Volume	948	1214	1073	1014	976	1045			
PM Peak	5:00 PM	5:00 PM	5:00 PM	5:00 PM	4:00 PM	5:00 PM			
Volume	980	1044	1063	1078	1022	1023			

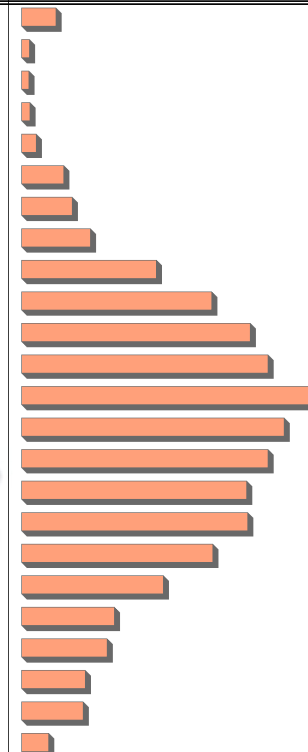


Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: SR-227 just south of Tank Farm Rd
SPECIFIC LOCATION: SR-227 just south of Tank Farm Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607201
DIRECTION: NB
DATE: Jan 30 2016 - Jan 31 2016

Start Time	Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM	83	49	66	
1:00 AM	13	16	15	
2:00 AM	17	11	14	
3:00 AM	21	11	16	
4:00 AM	33	23	28	
5:00 AM	95	67	81	
6:00 AM	124	70	97	
7:00 AM	170	93	132	
8:00 AM	335	182	259	
9:00 AM	484	246	365	
10:00 AM	518	360	439	
11:00 AM	**571**	**375**	**473**	
12:00 PM	**613**	**491**	**552**	
1:00 PM	581	426	504	
2:00 PM	524	421	473	
3:00 PM	491	372	432	
4:00 PM	500	367	434	
5:00 PM	416	318	367	
6:00 PM	291	252	272	
7:00 PM	206	150	178	
8:00 PM	178	150	164	
9:00 PM	136	107	122	
10:00 PM	138	97	118	
11:00 PM	80	23	52	
Day Total	6618	4677	5653	
% Weekday Average				
% Week Average	117.1%	82.7%		
AM Peak Volume	11:00 AM 571	11:00 AM 375	11:00 AM 473	
PM Peak Volume	12:00 PM 613	12:00 PM 491	12:00 PM 552	

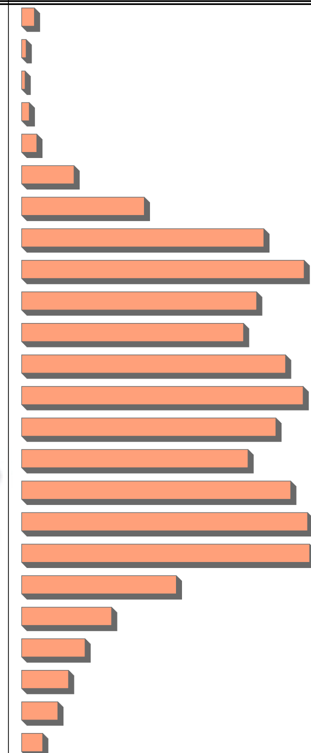
Comments:

SUMMARY - Tube Count - Volume Data (Week)

LOCATION: SR-227 just south of Tank Farm Rd
SPECIFIC LOCATION: SR-227 just south of Tank Farm Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607201
DIRECTION: NB
DATE: Jan 25 2016 - Jan 31 2016

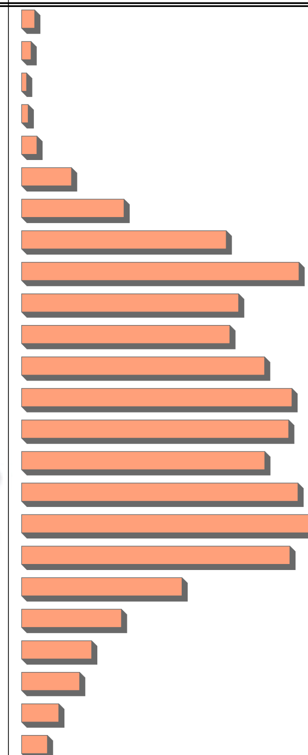
Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	38	22	19	22	27	26	83	49	37	
1:00 AM	8	8	22	15	12	13	13	16	13	
2:00 AM	10	11	10	5	9	9	17	11	10	
3:00 AM	27	22	23	24	26	24	21	11	22	
4:00 AM	49	59	50	43	50	50	33	23	44	
5:00 AM	167	186	189	179	179	180	95	67	152	
6:00 AM	441	476	477	462	442	460	124	70	356	
7:00 AM	882	964	960	929	922	931	170	93	703	
8:00 AM	**948**	**1214**	**1073**	**1014**	**976**	**1045**	335	182	**820**	
9:00 AM	869	764	754	826	831	809	484	246	682	
10:00 AM	704	704	721	745	756	726	518	360	644	
11:00 AM	874	901	886	862	891	883	**571**	**375**	766	
12:00 PM	941	902	899	893	982	923	**613**	**491**	817	
1:00 PM	814	802	820	886	838	832	581	426	738	
2:00 PM	688	723	705	748	788	730	524	421	657	
3:00 PM	888	907	933	957	916	920	491	372	781	
4:00 PM	953	987	960	1018	**1022**	988	500	367	830	
5:00 PM	**980**	**1044**	**1063**	**1078**	951	**1023**	416	318	**836**	
6:00 PM	505	500	523	522	549	520	291	252	449	
7:00 PM	265	300	296	291	318	294	206	150	261	
8:00 PM	177	199	174	217	194	192	178	150	184	
9:00 PM	137	93	139	156	181	141	136	107	136	
10:00 PM	80	72	74	95	177	100	138	97	105	
11:00 PM	44	56	38	56	127	64	80	23	61	
Day Total	11489	11916	11808	12043	12164	11883	6618	4677	10104	
% Weekday Average	96.7%	100.3%	99.4%	101.3%	102.4%					
% Week Average	113.7%	117.9%	116.9%	119.2%	120.4%	117.6%	65.5%	46.3%		
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM	
Volume	948	1214	1073	1014	976	1045	571	375	820	
PM Peak	5:00 PM	5:00 PM	5:00 PM	5:00 PM	4:00 PM	5:00 PM	12:00 PM	12:00 PM	5:00 PM	
Volume	980	1044	1063	1078	1022	1023	613	491	836	



Comments:

LOCATION: SR-227 just south of Tank Farm Rd **QC JOB #:** 13607201
SPECIFIC LOCATION: SR-227 just south of Tank Farm Rd **DIRECTION:** NB/SB
CITY/STATE: San Luis Obispo, CA **DATE:** Jan 26 2016 - Jan 31 2016

Start Time	Mon	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM		47	43	55	62	52	152	99	76	
1:00 AM		22	49	30	41	36	138	50	55	
2:00 AM		22	22	15	29	22	60	27	29	
3:00 AM		49	38	43	40	43	38	21	38	
4:00 AM		107	101	88	111	102	76	50	89	
5:00 AM		363	358	354	368	361	159	139	290	
6:00 AM		830	840	788	768	807	214	128	595	
7:00 AM		1671	1651	1653	1641	1654	330	187	1189	
8:00 AM		**2324**	**2179**	**2090**	**2083**	**2169**	645	351	**1612**	
9:00 AM		1481	1494	1552	1635	1541	896	506	1261	
10:00 AM		1360	1339	1432	1466	1399	996	668	1210	
11:00 AM		1651	1664	1601	1684	1650	**1146**	**723**	1412	
12:00 PM		1795	1753	1836	1938	1831	**1212**	**892**	1571	
1:00 PM		1747	1796	1949	1834	1832	1171	815	1552	
2:00 PM		1611	1571	1662	1737	1645	1088	811	1413	
3:00 PM		1958	1867	1973	2012	1953	1031	793	1606	
4:00 PM		**2050**	**2032**	**2086**	**2076**	**2061**	996	788	**1671**	
5:00 PM		1944	2005	1969	1887	1951	845	705	1559	
6:00 PM		1083	1114	1133	1142	1118	601	520	932	
7:00 PM		677	698	672	635	671	442	354	580	
8:00 PM		440	415	495	453	451	341	300	407	
9:00 PM		241	352	433	439	366	308	248	337	
10:00 PM		157	147	219	330	213	257	183	216	
11:00 PM		131	105	158	243	159	186	75	150	
Day Total		23761	23633	24286	24654	24087	13328	9433	19850	
% Weekday Average		98.6%	98.1%	100.8%	102.4%					
% Week Average		119.7%	119.1%	122.3%	124.2%	121.3%	67.1%	47.5%		
AM Peak		8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM	
Volume		2324	2179	2090	2083	2169	1146	723	1612	
PM Peak		4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	12:00 PM	12:00 PM	4:00 PM	
Volume		2050	2032	2086	2076	2061	1212	892	1671	

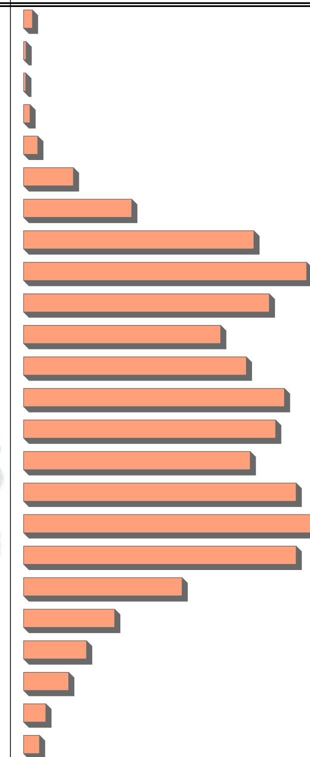


Comments:

LOCATION: SR-227 just south of Tank Farm Rd
SPECIFIC LOCATION: SR-227 just south of Tank Farm Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607201
DIRECTION: NB/SB
DATE: Feb 01 2016 - Feb 01 2016

Start Time	Mon 01-Feb-16	Tue	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM	61					61			61	
1:00 AM	17					17			17	
2:00 AM	15					15			15	
3:00 AM	44					44			44	
4:00 AM	98					98			98	
5:00 AM	345					345			345	
6:00 AM	749					749			749	
7:00 AM	1595					1595			1595	
8:00 AM	**1961**					**1961**			**1961**	
9:00 AM	1702					1702			1702	
10:00 AM	1365					1365			1365	
11:00 AM	1543					1543			1543	
12:00 PM	1807					1807			1807	
1:00 PM	1746					1746			1746	
2:00 PM	1570					1570			1570	
3:00 PM	1888					1888			1888	
4:00 PM	**1992**					**1992**			**1992**	
5:00 PM	1888					1888			1888	
6:00 PM	1098					1098			1098	
7:00 PM	631					631			631	
8:00 PM	436					436			436	
9:00 PM	312					312			312	
10:00 PM	154					154			154	
11:00 PM	110					110			110	
Day Total	23127					23127			23127	
% Weekday Average	96.0%									
% Week Average	116.5%					100.0%				
AM Peak Volume	8:00 AM 1961					8:00 AM 1961			8:00 AM 1961	
PM Peak Volume	4:00 PM 1992					4:00 PM 1992			4:00 PM 1992	

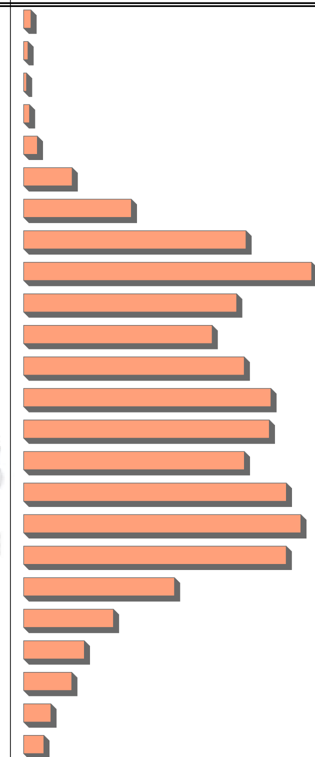


Comments:

LOCATION: SR-227 just south of Tank Farm Rd
SPECIFIC LOCATION: SR-227 just south of Tank Farm Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607201
DIRECTION: NB/SB
DATE: Jan 25 2016 - Jan 29 2016

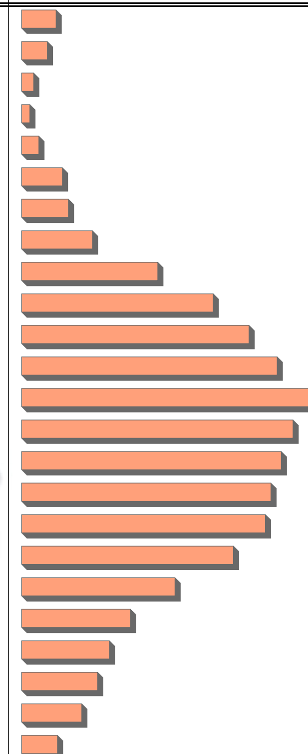
Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic			Average Weekday Profile
12:00 AM	61	47	43	55	62	54			
1:00 AM	17	22	49	30	41	32			
2:00 AM	15	22	22	15	29	21			
3:00 AM	44	49	38	43	40	43			
4:00 AM	98	107	101	88	111	101			
5:00 AM	345	363	358	354	368	358			
6:00 AM	749	830	840	788	768	795			
7:00 AM	1595	1671	1651	1653	1641	1642			
8:00 AM	**1961**	**2324**	**2179**	**2090**	**2083**	**2127**			
9:00 AM	1702	1481	1494	1552	1635	1573			
10:00 AM	1365	1360	1339	1432	1466	1392			
11:00 AM	1543	1651	1664	1601	1684	1629			
12:00 PM	1807	1795	1753	1836	1938	1826			
1:00 PM	1746	1747	1796	1949	1834	1814			
2:00 PM	1570	1611	1571	1662	1737	1630			
3:00 PM	1888	1958	1867	1973	2012	1940			
4:00 PM	**1992**	**2050**	**2032**	**2086**	**2076**	**2047**			
5:00 PM	1888	1944	2005	1969	1887	1939			
6:00 PM	1098	1083	1114	1133	1142	1114			
7:00 PM	631	677	698	672	635	663			
8:00 PM	436	440	415	495	453	448			
9:00 PM	312	241	352	433	439	355			
10:00 PM	154	157	147	219	330	201			
11:00 PM	110	131	105	158	243	149			
Day Total	23127	23761	23633	24286	24654	23893			
% Weekday Average % Week Average	96.8%	99.4%	98.9%	101.6%	103.2%				
AM Peak Volume	8:00 AM 1961	8:00 AM 2324	8:00 AM 2179	8:00 AM 2090	8:00 AM 2083	8:00 AM 2127			
PM Peak Volume	4:00 PM 1992	4:00 PM 2050	4:00 PM 2032	4:00 PM 2086	4:00 PM 2076	4:00 PM 2047			



Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: SR-227 just south of Tank Farm Rd
QC JOB #: 13607201
SPECIFIC LOCATION: SR-227 just south of Tank Farm Rd
DIRECTION: NB/SB
CITY/STATE: San Luis Obispo, CA
DATE: Jan 30 2016 - Jan 31 2016

Start Time	Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM	152	99	126	
1:00 AM	138	50	94	
2:00 AM	60	27	44	
3:00 AM	38	21	30	
4:00 AM	76	50	63	
5:00 AM	159	139	149	
6:00 AM	214	128	171	
7:00 AM	330	187	259	
8:00 AM	645	351	498	
9:00 AM	896	506	701	
10:00 AM	996	668	832	
11:00 AM	**1146**	**723**	**935**	
12:00 PM	**1212**	**892**	**1052**	
1:00 PM	1171	815	993	
2:00 PM	1088	811	950	
3:00 PM	1031	793	912	
4:00 PM	996	788	892	
5:00 PM	845	705	775	
6:00 PM	601	520	561	
7:00 PM	442	354	398	
8:00 PM	341	300	321	
9:00 PM	308	248	278	
10:00 PM	257	183	220	
11:00 PM	186	75	131	
Day Total	13328	9433	11385	
% Weekday Average				
% Week Average	117.1%	82.9%		
AM Peak Volume	11:00 AM 1146	11:00 AM 723	11:00 AM 935	
PM Peak Volume	12:00 PM 1212	12:00 PM 892	12:00 PM 1052	

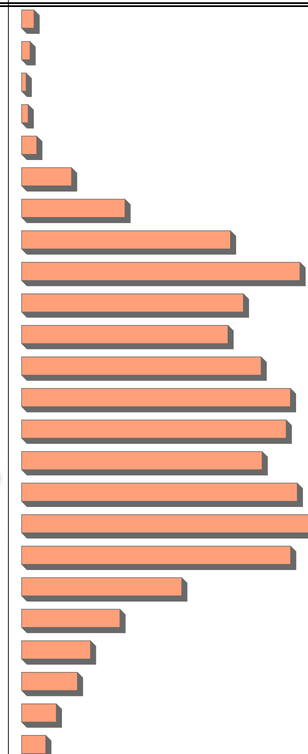
Comments:

SUMMARY - Tube Count - Volume Data (Week)

LOCATION: SR-227 just south of Tank Farm Rd
SPECIFIC LOCATION: SR-227 just south of Tank Farm Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607201
DIRECTION: NB/SB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	61	47	43	55	62	54	152	99	74	
1:00 AM	17	22	49	30	41	32	138	50	50	
2:00 AM	15	22	22	15	29	21	60	27	27	
3:00 AM	44	49	38	43	40	43	38	21	39	
4:00 AM	98	107	101	88	111	101	76	50	90	
5:00 AM	345	363	358	354	368	358	159	139	298	
6:00 AM	749	830	840	788	768	795	214	128	617	
7:00 AM	1595	1671	1651	1653	1641	1642	330	187	1247	
8:00 AM	**1961**	**2324**	**2179**	**2090**	**2083**	**2127**	645	351	**1662**	
9:00 AM	1702	1481	1494	1552	1635	1573	896	506	1324	
10:00 AM	1365	1360	1339	1432	1466	1392	996	668	1232	
11:00 AM	1543	1651	1664	1601	1684	1629	**1146**	**723**	1430	
12:00 PM	1807	1795	1753	1836	1938	1826	**1212**	**892**	1605	
1:00 PM	1746	1747	1796	1949	1834	1814	1171	815	1580	
2:00 PM	1570	1611	1571	1662	1737	1630	1088	811	1436	
3:00 PM	1888	1958	1867	1973	2012	1940	1031	793	1646	
4:00 PM	**1992**	**2050**	**2032**	**2086**	**2076**	**2047**	996	788	**1717**	
5:00 PM	1888	1944	2005	1969	1887	1939	845	705	1606	
6:00 PM	1098	1083	1114	1133	1142	1114	601	520	956	
7:00 PM	631	677	698	672	635	663	442	354	587	
8:00 PM	436	440	415	495	453	448	341	300	411	
9:00 PM	312	241	352	433	439	355	308	248	333	
10:00 PM	154	157	147	219	330	201	257	183	207	
11:00 PM	110	131	105	158	243	149	186	75	144	
Day Total	23127	23761	23633	24286	24654	23893	13328	9433	20318	
% Weekday Average	96.8%	99.4%	98.9%	101.6%	103.2%					
% Week Average	113.8%	116.9%	116.3%	119.5%	121.3%	117.6%	65.6%	46.4%		
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM	
Volume	1961	2324	2179	2090	2083	2127	1146	723	1662	
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	12:00 PM	12:00 PM	4:00 PM	
Volume	1992	2050	2032	2086	2076	2047	1212	892	1717	

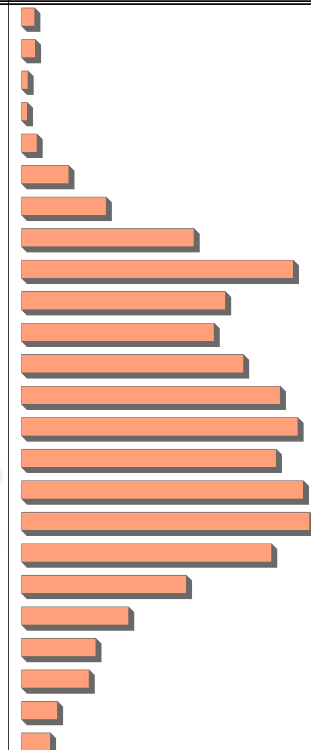


Comments:

LOCATION: SR-227 just south of Tank Farm Rd
SPECIFIC LOCATION: SR-227 just south of Tank Farm Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607201
DIRECTION: SB
DATE: Jan 26 2016 - Jan 31 2016

Start Time	Mon	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM		25	24	33	35	29	69	50	39	
1:00 AM		14	27	15	29	21	125	34	41	
2:00 AM		11	12	10	20	13	43	16	19	
3:00 AM		27	15	19	14	19	17	10	17	
4:00 AM		48	51	45	61	51	43	27	46	
5:00 AM		177	169	175	189	178	64	72	141	
6:00 AM		354	363	326	326	342	90	58	253	
7:00 AM		707	691	724	719	710	160	94	516	
8:00 AM		**1110**	**1106**	**1076**	**1107**	**1100**	310	169	**813**	
9:00 AM		717	740	726	804	747	412	260	610	
10:00 AM		656	618	687	710	668	478	308	576	
11:00 AM		750	778	739	793	765	**575**	**348**	664	
12:00 PM		893	854	943	956	912	**599**	401	774	
1:00 PM		945	976	1063	996	995	590	389	827	
2:00 PM		888	866	914	949	904	564	390	762	
3:00 PM		1051	934	1016	**1096**	1024	540	**421**	843	
4:00 PM		**1063**	**1072**	**1068**	1054	**1064**	496	421	**862**	
5:00 PM		900	942	891	936	917	429	387	748	
6:00 PM		583	591	611	593	595	310	268	493	
7:00 PM		377	402	381	317	369	236	204	320	
8:00 PM		241	241	278	259	255	163	150	222	
9:00 PM		148	213	277	258	224	172	141	202	
10:00 PM		85	73	124	153	109	119	86	107	
11:00 PM		75	67	102	116	90	106	52	86	
Day Total		11845	11825	12243	12490	12101	6710	4756	9981	
% Weekday Average		97.9%	97.7%	101.2%	103.2%					
% Week Average		118.7%	118.5%	122.7%	125.1%	121.2%	67.2%	47.7%		
AM Peak		8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM	
Volume		1110	1106	1076	1107	1100	575	348	813	
PM Peak		4:00 PM	4:00 PM	4:00 PM	3:00 PM	4:00 PM	12:00 PM	3:00 PM	4:00 PM	
Volume		1063	1072	1068	1096	1064	599	421	862	

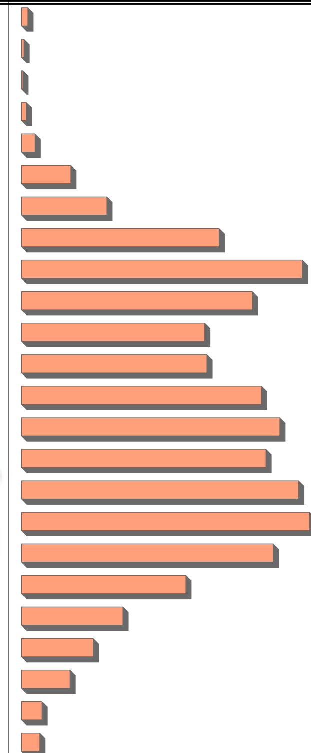


Comments:

LOCATION: SR-227 just south of Tank Farm Rd
SPECIFIC LOCATION: SR-227 just south of Tank Farm Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607201
DIRECTION: SB
DATE: Feb 01 2016 - Feb 01 2016

Start Time	Mon 01-Feb-16	Tue	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM	23					23			23	
1:00 AM	9					9			9	
2:00 AM	5					5			5	
3:00 AM	17					17			17	
4:00 AM	49					49			49	
5:00 AM	178					178			178	
6:00 AM	308					308			308	
7:00 AM	713					713			713	
8:00 AM	**1013**					**1013**			**1013**	
9:00 AM	833					833			833	
10:00 AM	661					661			661	
11:00 AM	669					669			669	
12:00 PM	866					866			866	
1:00 PM	932					932			932	
2:00 PM	882					882			882	
3:00 PM	1000					1000			1000	
4:00 PM	**1039**					**1039**			**1039**	
5:00 PM	908					908			908	
6:00 PM	593					593			593	
7:00 PM	366					366			366	
8:00 PM	259					259			259	
9:00 PM	175					175			175	
10:00 PM	74					74			74	
11:00 PM	66					66			66	
Day Total	11638					11638			11638	
% Weekday Average	96.2%									
% Week Average	116.6%					100.0%				
AM Peak Volume	8:00 AM 1013					8:00 AM 1013			8:00 AM 1013	
PM Peak Volume	4:00 PM 1039					4:00 PM 1039			4:00 PM 1039	



Comments:

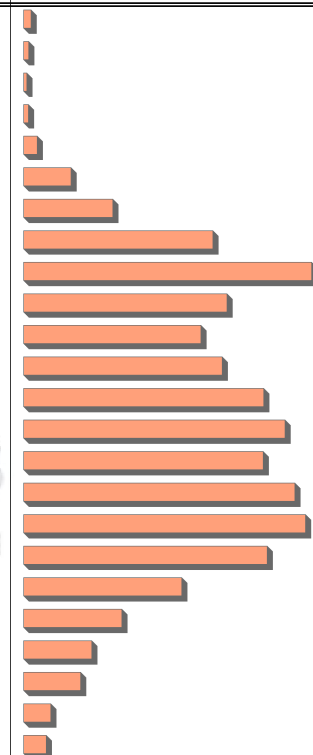
SUMMARY - Tube Count - Volume Data (Weekday)

LOCATION: SR-227 just south of Tank Farm Rd
SPECIFIC LOCATION: SR-227 just south of Tank Farm Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607201
DIRECTION: SB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic
12:00 AM	23	25	24	33	35	28
1:00 AM	9	14	27	15	29	19
2:00 AM	5	11	12	10	20	12
3:00 AM	17	27	15	19	14	18
4:00 AM	49	48	51	45	61	51
5:00 AM	178	177	169	175	189	178
6:00 AM	308	354	363	326	326	335
7:00 AM	713	707	691	724	719	711
8:00 AM	**1013**	**1110**	**1106**	**1076**	**1107**	**1082**
9:00 AM	833	717	740	726	804	764
10:00 AM	661	656	618	687	710	666
11:00 AM	669	750	778	739	793	746
12:00 PM	866	893	854	943	956	902
1:00 PM	932	945	976	1063	996	982
2:00 PM	882	888	866	914	949	900
3:00 PM	1000	1051	934	1016	**1096**	1019
4:00 PM	**1039**	**1063**	**1072**	**1068**	1054	**1059**
5:00 PM	908	900	942	891	936	915
6:00 PM	593	583	591	611	593	594
7:00 PM	366	377	402	381	317	369
8:00 PM	259	241	241	278	259	256
9:00 PM	175	148	213	277	258	214
10:00 PM	74	85	73	124	153	102
11:00 PM	66	75	67	102	116	85
Day Total	11638	11845	11825	12243	12490	12007
% Weekday Average	96.9%	98.7%	98.5%	102.0%	104.0%	
% Week Average						
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM
Volume	1013	1110	1106	1076	1107	1082
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	3:00 PM	4:00 PM
Volume	1039	1063	1072	1068	1096	1059

Average Weekday Profile



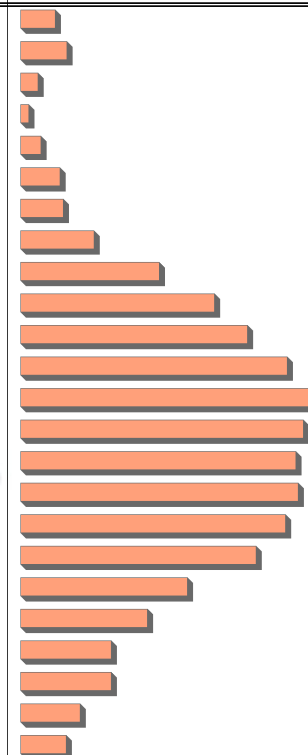
Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: SR-227 just south of Tank Farm Rd
SPECIFIC LOCATION: SR-227 just south of Tank Farm Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607201
DIRECTION: SB
DATE: Jan 30 2016 - Jan 31 2016

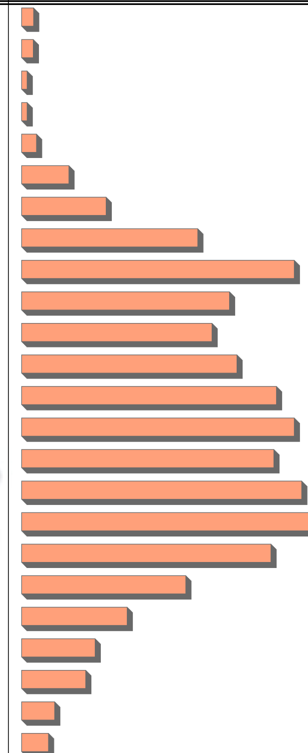
Start Time	Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM	69	50	60	
1:00 AM	125	34	80	
2:00 AM	43	16	30	
3:00 AM	17	10	14	
4:00 AM	43	27	35	
5:00 AM	64	72	68	
6:00 AM	90	58	74	
7:00 AM	160	94	127	
8:00 AM	310	169	240	
9:00 AM	412	260	336	
10:00 AM	478	308	393	
11:00 AM	**575**	**348**	**462**	
12:00 PM	**599**	401	**500**	
1:00 PM	590	389	490	
2:00 PM	564	390	477	
3:00 PM	540	**421**	481	
4:00 PM	496	421	459	
5:00 PM	429	387	408	
6:00 PM	310	268	289	
7:00 PM	236	204	220	
8:00 PM	163	150	157	
9:00 PM	172	141	157	
10:00 PM	119	86	103	
11:00 PM	106	52	79	
Day Total	6710	4756	5739	
% Weekday Average				
% Week Average	116.9%	82.9%		
AM Peak Volume	11:00 AM 575	11:00 AM 348	11:00 AM 462	
PM Peak Volume	12:00 PM 599	3:00 PM 421	12:00 PM 500	



Comments:

LOCATION: SR-227 just south of Tank Farm Rd
SPECIFIC LOCATION: SR-227 just south of Tank Farm Rd
CITY/STATE: San Luis Obispo, CA
QC JOB #: 13607201
DIRECTION: SB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	23	25	24	33	35	28	69	50	37	
1:00 AM	9	14	27	15	29	19	125	34	36	
2:00 AM	5	11	12	10	20	12	43	16	17	
3:00 AM	17	27	15	19	14	18	17	10	17	
4:00 AM	49	48	51	45	61	51	43	27	46	
5:00 AM	178	177	169	175	189	178	64	72	146	
6:00 AM	308	354	363	326	326	335	90	58	261	
7:00 AM	713	707	691	724	719	711	160	94	544	
8:00 AM	**1013**	**1110**	**1106**	**1076**	**1107**	**1082**	310	169	**842**	
9:00 AM	833	717	740	726	804	764	412	260	642	
10:00 AM	661	656	618	687	710	666	478	308	588	
11:00 AM	669	750	778	739	793	746	**575**	**348**	665	
12:00 PM	866	893	854	943	956	902	**599**	401	787	
1:00 PM	932	945	976	1063	996	982	590	389	842	
2:00 PM	882	888	866	914	949	900	564	390	779	
3:00 PM	1000	1051	934	1016	**1096**	1019	540	**421**	865	
4:00 PM	**1039**	**1063**	**1072**	**1068**	1054	**1059**	496	421	**888**	
5:00 PM	908	900	942	891	936	915	429	387	770	
6:00 PM	593	583	591	611	593	594	310	268	507	
7:00 PM	366	377	402	381	317	369	236	204	326	
8:00 PM	259	241	241	278	259	256	163	150	227	
9:00 PM	175	148	213	277	258	214	172	141	198	
10:00 PM	74	85	73	124	153	102	119	86	102	
11:00 PM	66	75	67	102	116	85	106	52	83	
Day Total	11638	11845	11825	12243	12490	12007	6710	4756	10215	
% Weekday Average	96.9%	98.7%	98.5%	102.0%	104.0%					
% Week Average	113.9%	116.0%	115.8%	119.9%	122.3%	117.5%	65.7%	46.6%		
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM	
Volume	1013	1110	1106	1076	1107	1082	575	348	842	
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	3:00 PM	4:00 PM	12:00 PM	3:00 PM	4:00 PM	
Volume	1039	1063	1072	1068	1096	1059	599	421	888	



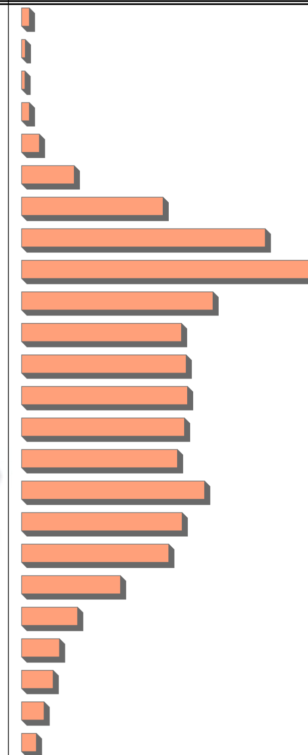
Comments:

LOCATION: SR-227 just north of Buckley Rd
SPECIFIC LOCATION: SR-227 just north of Buckley Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607202
DIRECTION: NB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic
12:00 AM	12	14	18	9	17	14	50	42	23
1:00 AM	9	8	10	13	8	10	13	14	11
2:00 AM	9	11	5	8	8	8	16	10	10
3:00 AM	25	19	23	29	32	26	23	11	23
4:00 AM	52	67	62	59	61	60	35	32	53
5:00 AM	188	209	191	189	176	191	86	59	157
6:00 AM	547	576	560	556	531	554	114	68	422
7:00 AM	924	1030	987	1007	952	980	95	92	727
8:00 AM	**986**	**1286**	**1173**	**1096**	**1084**	**1125**	210	170	**858**
9:00 AM	830	664	618	700	656	694	331	201	571
10:00 AM	510	507	526	537	556	527	412	**293**	477
11:00 AM	526	525	541	536	576	541	**448**	283	491
12:00 PM	556	539	511	496	607	542	**455**	300	495
1:00 PM	452	502	532	585	555	525	454	322	486
2:00 PM	473	499	494	500	573	508	391	**325**	465
3:00 PM	**593**	**624**	**610**	**673**	**659**	**632**	361	302	**546**
4:00 PM	490	539	535	561	562	537	391	275	479
5:00 PM	455	478	488	558	533	502	317	242	439
6:00 PM	287	282	343	337	388	327	232	194	295
7:00 PM	174	164	188	168	185	176	168	120	167
8:00 PM	100	108	103	131	135	115	101	110	113
9:00 PM	71	68	94	99	123	91	125	75	94
10:00 PM	50	55	40	47	134	65	98	42	67
11:00 PM	30	26	23	30	105	43	69	28	44
Day Total	8349	8800	8675	8924	9216	8793	4995	3610	7513
% Weekday Average	95.0%	100.1%	98.7%	101.5%	104.8%				
% Week Average	111.1%	117.1%	115.5%	118.8%	122.7%	117.0%	66.5%	48.1%	
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	10:00 AM	8:00 AM
Volume	986	1286	1173	1096	1084	1125	448	293	858
PM Peak	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	12:00 PM	2:00 PM	3:00 PM
Volume	593	624	610	673	659	632	455	325	546

Average Week Profile



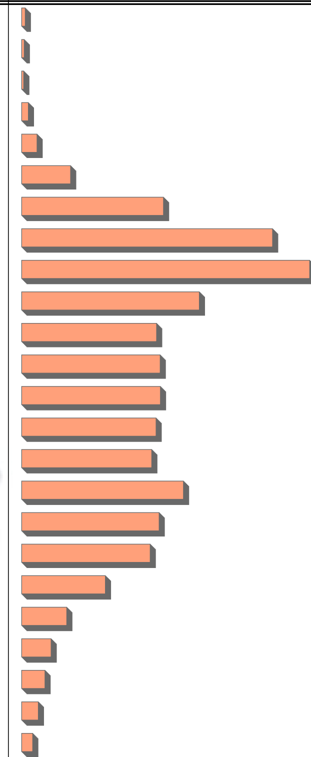
Comments:

SUMMARY - Tube Count - Volume Data (Weekday)

LOCATION: SR-227 just north of Buckley Rd
SPECIFIC LOCATION: SR-227 just north of Buckley Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607202
DIRECTION: NB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic			Average Weekday Profile
12:00 AM	12	14	18	9	17	14			
1:00 AM	9	8	10	13	8	10			
2:00 AM	9	11	5	8	8	8			
3:00 AM	25	19	23	29	32	26			
4:00 AM	52	67	62	59	61	60			
5:00 AM	188	209	191	189	176	191			
6:00 AM	547	576	560	556	531	554			
7:00 AM	924	1030	987	1007	952	980			
8:00 AM	**986**	**1286**	**1173**	**1096**	**1084**	**1125**			
9:00 AM	830	664	618	700	656	694			
10:00 AM	510	507	526	537	556	527			
11:00 AM	526	525	541	536	576	541			
12:00 PM	556	539	511	496	607	542			
1:00 PM	452	502	532	585	555	525			
2:00 PM	473	499	494	500	573	508			
3:00 PM	**593**	**624**	**610**	**673**	**659**	**632**			
4:00 PM	490	539	535	561	562	537			
5:00 PM	455	478	488	558	533	502			
6:00 PM	287	282	343	337	388	327			
7:00 PM	174	164	188	168	185	176			
8:00 PM	100	108	103	131	135	115			
9:00 PM	71	68	94	99	123	91			
10:00 PM	50	55	40	47	134	65			
11:00 PM	30	26	23	30	105	43			
Day Total	8349	8800	8675	8924	9216	8793			
% Weekday Average % Week Average	95.0%	100.1%	98.7%	101.5%	104.8%				
AM Peak Volume	8:00 AM 986	8:00 AM 1286	8:00 AM 1173	8:00 AM 1096	8:00 AM 1084	8:00 AM 1125			
PM Peak Volume	3:00 PM 593	3:00 PM 624	3:00 PM 610	3:00 PM 673	3:00 PM 659	3:00 PM 632			



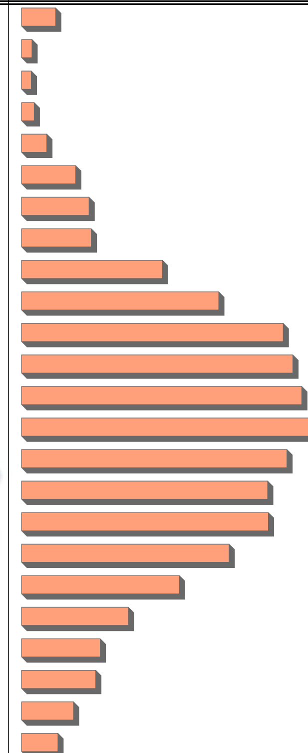
Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: SR-227 just north of Buckley Rd
SPECIFIC LOCATION: SR-227 just north of Buckley Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607202
DIRECTION: NB
DATE: Jan 30 2016 - Jan 31 2016

Start Time	Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM	50	42	46	
1:00 AM	13	14	14	
2:00 AM	16	10	13	
3:00 AM	23	11	17	
4:00 AM	35	32	34	
5:00 AM	86	59	73	
6:00 AM	114	68	91	
7:00 AM	95	92	94	
8:00 AM	210	170	190	
9:00 AM	331	201	266	
10:00 AM	412	**293**	353	
11:00 AM	**448**	283	**366**	
12:00 PM	**455**	300	378	
1:00 PM	454	322	**388**	
2:00 PM	391	**325**	358	
3:00 PM	361	302	332	
4:00 PM	391	275	333	
5:00 PM	317	242	280	
6:00 PM	232	194	213	
7:00 PM	168	120	144	
8:00 PM	101	110	106	
9:00 PM	125	75	100	
10:00 PM	98	42	70	
11:00 PM	69	28	49	
Day Total	4995	3610	4308	
% Weekday Average				
% Week Average	115.9%	83.8%		
AM Peak Volume	11:00 AM 448	10:00 AM 293	11:00 AM 366	
PM Peak Volume	12:00 PM 455	2:00 PM 325	1:00 PM 388	

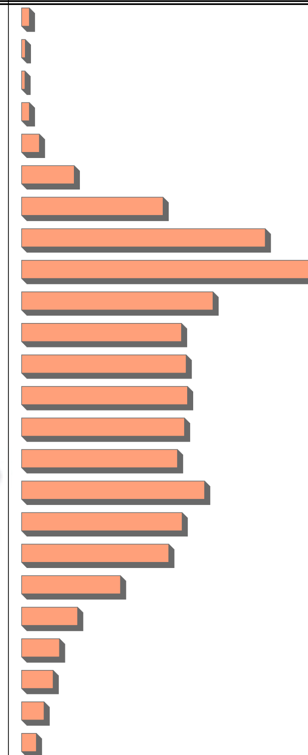


Comments:

LOCATION: SR-227 just north of Buckley Rd
SPECIFIC LOCATION: SR-227 just north of Buckley Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607202
DIRECTION: NB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	12	14	18	9	17	14	50	42	23	
1:00 AM	9	8	10	13	8	10	13	14	11	
2:00 AM	9	11	5	8	8	8	16	10	10	
3:00 AM	25	19	23	29	32	26	23	11	23	
4:00 AM	52	67	62	59	61	60	35	32	53	
5:00 AM	188	209	191	189	176	191	86	59	157	
6:00 AM	547	576	560	556	531	554	114	68	422	
7:00 AM	924	1030	987	1007	952	980	95	92	727	
8:00 AM	**986**	**1286**	**1173**	**1096**	**1084**	**1125**	210	170	**858**	
9:00 AM	830	664	618	700	656	694	331	201	571	
10:00 AM	510	507	526	537	556	527	412	**293**	477	
11:00 AM	526	525	541	536	576	541	**448**	283	491	
12:00 PM	556	539	511	496	607	542	**455**	300	495	
1:00 PM	452	502	532	585	555	525	454	322	486	
2:00 PM	473	499	494	500	573	508	391	**325**	465	
3:00 PM	**593**	**624**	**610**	**673**	**659**	**632**	361	302	**546**	
4:00 PM	490	539	535	561	562	537	391	275	479	
5:00 PM	455	478	488	558	533	502	317	242	439	
6:00 PM	287	282	343	337	388	327	232	194	295	
7:00 PM	174	164	188	168	185	176	168	120	167	
8:00 PM	100	108	103	131	135	115	101	110	113	
9:00 PM	71	68	94	99	123	91	125	75	94	
10:00 PM	50	55	40	47	134	65	98	42	67	
11:00 PM	30	26	23	30	105	43	69	28	44	
Day Total	8349	8800	8675	8924	9216	8793	4995	3610	7513	
% Weekday Average	95.0%	100.1%	98.7%	101.5%	104.8%					
% Week Average	111.1%	117.1%	115.5%	118.8%	122.7%	117.0%	66.5%	48.1%		
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	10:00 AM	8:00 AM	
Volume	986	1286	1173	1096	1084	1125	448	293	858	
PM Peak	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	12:00 PM	2:00 PM	3:00 PM	
Volume	593	624	610	673	659	632	455	325	546	



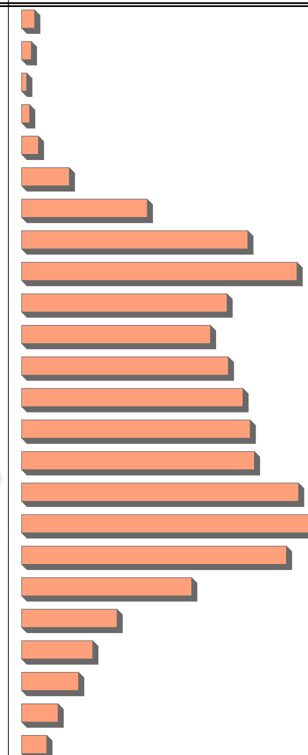
Comments:

Type of report: Tube Count - Volume Data

LOCATION: SR-227 just north of Buckley Rd **QC JOB #:** 13607202
SPECIFIC LOCATION: SR-227 just north of Buckley Rd **DIRECTION:** NB/SB
CITY/STATE: San Luis Obispo, CA **DATE:** Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic
12:00 AM	31	40	43	43	52	42	115	86	59
1:00 AM	21	20	33	32	36	28	125	41	44
2:00 AM	11	21	15	14	21	16	54	23	23
3:00 AM	43	35	32	43	46	40	37	16	36
4:00 AM	75	91	92	89	91	88	56	37	76
5:00 AM	255	284	255	261	250	261	121	85	216
6:00 AM	716	765	762	737	710	738	186	110	569
7:00 AM	1266	1407	1347	1367	1349	1347	278	157	1024
8:00 AM	**1366**	**1776**	**1652**	**1573**	**1585**	**1590**	502	278	**1247**
9:00 AM	1292	1055	987	1083	1101	1104	635	358	930
10:00 AM	926	934	921	956	991	946	756	504	855
11:00 AM	987	1021	1011	1008	1123	1030	**875**	**527**	936
12:00 PM	1093	1086	1033	1083	1212	1101	904	604	1002
1:00 PM	1025	1053	1142	1232	1218	1134	**951**	625	1035
2:00 PM	1091	1188	1148	1187	1287	1180	836	**640**	1054
3:00 PM	1392	1495	1367	1519	**1609**	1476	783	616	1254
4:00 PM	**1473**	**1519**	**1533**	**1590**	1564	**1536**	819	614	**1302**
5:00 PM	1349	1411	1427	1476	1475	1428	705	547	1199
6:00 PM	849	852	899	932	923	891	498	439	770
7:00 PM	460	474	521	476	468	480	355	270	432
8:00 PM	355	337	339	393	348	354	260	223	322
9:00 PM	213	194	279	334	339	272	255	193	258
10:00 PM	126	129	115	173	289	166	193	130	165
11:00 PM	90	96	79	108	197	114	164	64	114
Day Total	16505	17283	17032	17709	18284	17362	10463	7187	14922
% Weekday Average	95.1%	99.5%	98.1%	102.0%	105.3%				
% Week Average	110.6%	115.8%	114.1%	118.7%	122.5%	116.4%	70.1%	48.2%	
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM
Volume	1366	1776	1652	1573	1585	1590	875	527	1247
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	3:00 PM	4:00 PM	1:00 PM	2:00 PM	4:00 PM
Volume	1473	1519	1533	1590	1609	1536	951	640	1302

Average Week Profile



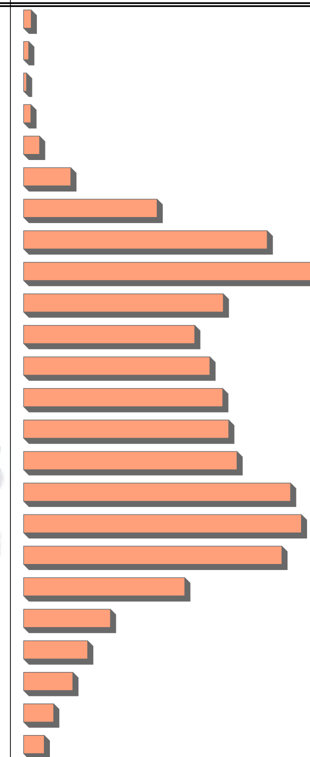
Comments:

LOCATION: SR-227 just north of Buckley Rd
SPECIFIC LOCATION: SR-227 just north of Buckley Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607202
DIRECTION: NB/SB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic
12:00 AM	31	40	43	43	52	42
1:00 AM	21	20	33	32	36	28
2:00 AM	11	21	15	14	21	16
3:00 AM	43	35	32	43	46	40
4:00 AM	75	91	92	89	91	88
5:00 AM	255	284	255	261	250	261
6:00 AM	716	765	762	737	710	738
7:00 AM	1266	1407	1347	1367	1349	1347
8:00 AM	**1366**	**1776**	**1652**	**1573**	**1585**	**1590**
9:00 AM	1292	1055	987	1083	1101	1104
10:00 AM	926	934	921	956	991	946
11:00 AM	987	1021	1011	1008	1123	1030
12:00 PM	1093	1086	1033	1083	1212	1101
1:00 PM	1025	1053	1142	1232	1218	1134
2:00 PM	1091	1188	1148	1187	1287	1180
3:00 PM	1392	1495	1367	1519	**1609**	1476
4:00 PM	**1473**	**1519**	**1533**	**1590**	1564	**1536**
5:00 PM	1349	1411	1427	1476	1475	1428
6:00 PM	849	852	899	932	923	891
7:00 PM	460	474	521	476	468	480
8:00 PM	355	337	339	393	348	354
9:00 PM	213	194	279	334	339	272
10:00 PM	126	129	115	173	289	166
11:00 PM	90	96	79	108	197	114
Day Total	16505	17283	17032	17709	18284	17362
% Weekday Average / % Week Average	95.1%	99.5%	98.1%	102.0%	105.3%	
AM Peak / Volume	8:00 AM 1366	8:00 AM 1776	8:00 AM 1652	8:00 AM 1573	8:00 AM 1585	8:00 AM 1590
PM Peak / Volume	4:00 PM 1473	4:00 PM 1519	4:00 PM 1533	4:00 PM 1590	3:00 PM 1609	4:00 PM 1536

Average Weekday Profile



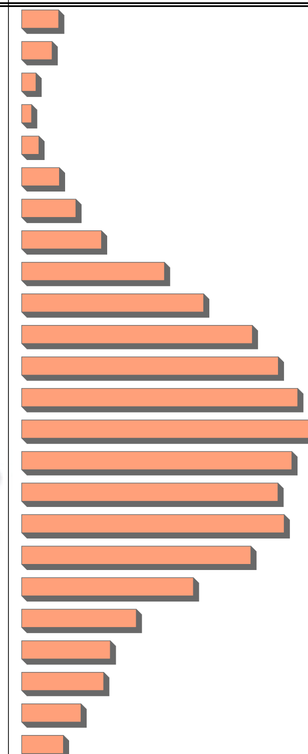
Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: SR-227 just north of Buckley Rd
SPECIFIC LOCATION: SR-227 just north of Buckley Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607202
DIRECTION: NB/SB
DATE: Jan 30 2016 - Jan 31 2016

Start Time			**Sat** 30-Jan-16	**Sun** 31-Jan-16	**Average Weekend Hourly Traffic**	**Average Weekend Profile**
12:00 AM			115	86	101	
1:00 AM			125	41	83	
2:00 AM			54	23	39	
3:00 AM			37	16	27	
4:00 AM			56	37	47	
5:00 AM			121	85	103	
6:00 AM			186	110	148	
7:00 AM			278	157	218	
8:00 AM			502	278	390	
9:00 AM			635	358	497	
10:00 AM			756	504	630	
11:00 AM			**875**	**527**	**701**	
12:00 PM			904	604	754	
1:00 PM			**951**	625	**788**	
2:00 PM			836	**640**	738	
3:00 PM			783	616	700	
4:00 PM			819	614	717	
5:00 PM			705	547	626	
6:00 PM			498	439	469	
7:00 PM			355	270	313	
8:00 PM			260	223	242	
9:00 PM			255	193	224	
10:00 PM			193	130	162	
11:00 PM			164	64	114	
Day Total			10463	7187	8831	
% Weekday Average						
% Week Average			118.5%	81.4%		
AM Peak Volume			11:00 AM 875	11:00 AM 527	11:00 AM 701	
PM Peak Volume			1:00 PM 951	2:00 PM 640	1:00 PM 788	

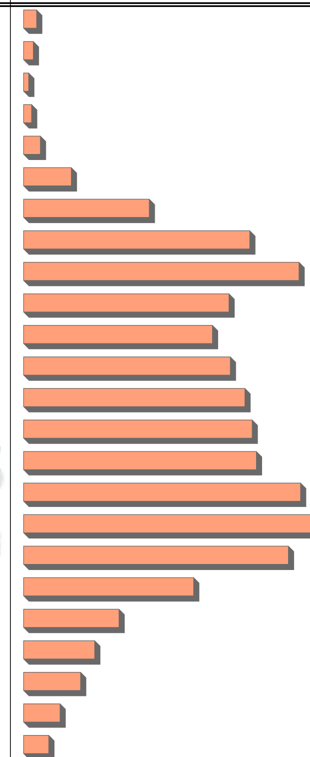


Comments:

LOCATION: SR-227 just north of Buckley Rd
SPECIFIC LOCATION: SR-227 just north of Buckley Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607202
DIRECTION: NB/SB
DATE: Jan 25 2016 - Jan 31 2016

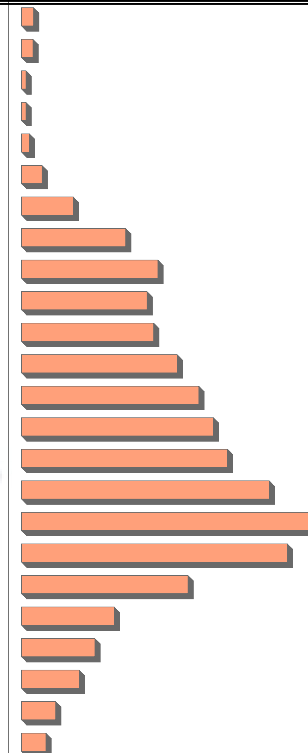
Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	31	40	43	43	52	42	115	86	59	
1:00 AM	21	20	33	32	36	28	125	41	44	
2:00 AM	11	21	15	14	21	16	54	23	23	
3:00 AM	43	35	32	43	46	40	37	16	36	
4:00 AM	75	91	92	89	91	88	56	37	76	
5:00 AM	255	284	255	261	250	261	121	85	216	
6:00 AM	716	765	762	737	710	738	186	110	569	
7:00 AM	1266	1407	1347	1367	1349	1347	278	157	1024	
8:00 AM	**1366**	**1776**	**1652**	**1573**	**1585**	**1590**	502	278	**1247**	
9:00 AM	1292	1055	987	1083	1101	1104	635	358	930	
10:00 AM	926	934	921	956	991	946	756	504	855	
11:00 AM	987	1021	1011	1008	1123	1030	**875**	**527**	936	
12:00 PM	1093	1086	1033	1083	1212	1101	904	604	1002	
1:00 PM	1025	1053	1142	1232	1218	1134	**951**	625	1035	
2:00 PM	1091	1188	1148	1187	1287	1180	836	**640**	1054	
3:00 PM	1392	1495	1367	1519	**1609**	1476	783	616	1254	
4:00 PM	**1473**	**1519**	**1533**	**1590**	1564	**1536**	819	614	**1302**	
5:00 PM	1349	1411	1427	1476	1475	1428	705	547	1199	
6:00 PM	849	852	899	932	923	891	498	439	770	
7:00 PM	460	474	521	476	468	480	355	270	432	
8:00 PM	355	337	339	393	348	354	260	223	322	
9:00 PM	213	194	279	334	339	272	255	193	258	
10:00 PM	126	129	115	173	289	166	193	130	165	
11:00 PM	90	96	79	108	197	114	164	64	114	
Day Total	16505	17283	17032	17709	18284	17362	10463	7187	14922	
% Weekday Average	95.1%	99.5%	98.1%	102.0%	105.3%					
% Week Average	110.6%	115.8%	114.1%	118.7%	122.5%	116.4%	70.1%	48.2%		
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM	
Volume	1366	1776	1652	1573	1585	1590	875	527	1247	
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	3:00 PM	4:00 PM	1:00 PM	2:00 PM	4:00 PM	
Volume	1473	1519	1533	1590	1609	1536	951	640	1302	



Comments:

LOCATION: SR-227 just north of Buckley Rd
SPECIFIC LOCATION: SR-227 just north of Buckley Rd
CITY/STATE: San Luis Obispo, CA
QC JOB #: 13607202
DIRECTION: SB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	19	26	25	34	35	28	65	44	35	
1:00 AM	12	12	23	19	28	19	112	27	33	
2:00 AM	2	10	10	6	13	8	38	13	13	
3:00 AM	18	16	9	14	14	14	14	5	13	
4:00 AM	23	24	30	30	30	27	21	5	23	
5:00 AM	67	75	64	72	74	70	35	26	59	
6:00 AM	169	189	202	181	179	184	72	42	148	
7:00 AM	342	377	360	360	397	367	183	65	298	
8:00 AM	380	490	**479**	**477**	501	465	292	108	390	
9:00 AM	**462**	391	369	383	445	410	304	157	359	
10:00 AM	416	427	395	419	435	418	344	211	378	
11:00 AM	461	**496**	470	472	**547**	**489**	**427**	**244**	**445**	
12:00 PM	537	547	522	587	605	560	449	304	507	
1:00 PM	573	551	610	647	663	609	**497**	303	549	
2:00 PM	618	689	654	687	714	672	445	315	589	
3:00 PM	799	871	757	846	950	845	422	314	708	
4:00 PM	**983**	**980**	**998**	**1029**	**1002**	**998**	428	**339**	**823**	
5:00 PM	894	933	939	918	942	925	388	305	760	
6:00 PM	562	570	556	595	535	564	266	245	476	
7:00 PM	286	310	333	308	283	304	187	150	265	
8:00 PM	255	229	236	262	213	239	159	113	210	
9:00 PM	142	126	185	235	216	181	130	118	165	
10:00 PM	76	74	75	126	155	101	95	88	98	
11:00 PM	60	70	56	78	92	71	95	36	70	
Day Total	8156	8483	8357	8785	9068	8568	5468	3577	7414	
% Weekday Average	95.2%	99.0%	97.5%	102.5%	105.8%					
% Week Average	110.0%	114.4%	112.7%	118.5%	122.3%	115.6%	73.8%	48.2%		
AM Peak	9:00 AM	11:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	
Volume	462	496	479	477	547	489	427	244	445	
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	1:00 PM	4:00 PM	4:00 PM	
Volume	983	980	998	1029	1002	998	497	339	823	



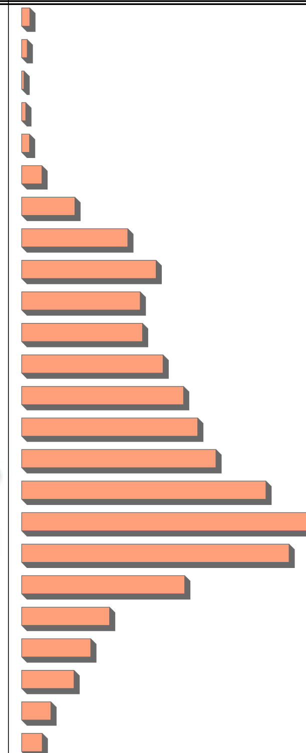
Comments:

SUMMARY - Tube Count - Volume Data (Weekday)

LOCATION: SR-227 just north of Buckley Rd
SPECIFIC LOCATION: SR-227 just north of Buckley Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607202
DIRECTION: SB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic			Average Weekday Profile
12:00 AM	19	26	25	34	35	28			
1:00 AM	12	12	23	19	28	19			
2:00 AM	2	10	10	6	13	8			
3:00 AM	18	16	9	14	14	14			
4:00 AM	23	24	30	30	30	27			
5:00 AM	67	75	64	72	74	70			
6:00 AM	169	189	202	181	179	184			
7:00 AM	342	377	360	360	397	367			
8:00 AM	380	490	**479**	**477**	501	465			
9:00 AM	**462**	391	369	383	445	410			
10:00 AM	416	427	395	419	435	418			
11:00 AM	461	**496**	470	472	**547**	**489**			
12:00 PM	537	547	522	587	605	560			
1:00 PM	573	551	610	647	663	609			
2:00 PM	618	689	654	687	714	672			
3:00 PM	799	871	757	846	950	845			
4:00 PM	**983**	**980**	**998**	**1029**	**1002**	**998**			
5:00 PM	894	933	939	918	942	925			
6:00 PM	562	570	556	595	535	564			
7:00 PM	286	310	333	308	283	304			
8:00 PM	255	229	236	262	213	239			
9:00 PM	142	126	185	235	216	181			
10:00 PM	76	74	75	126	155	101			
11:00 PM	60	70	56	78	92	71			
Day Total	8156	8483	8357	8785	9068	8568			
% Weekday Average	95.2%	99.0%	97.5%	102.5%	105.8%				
% Week Average									
AM Peak	9:00 AM	11:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM			
Volume	462	496	479	477	547	489			
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM			
Volume	983	980	998	1029	1002	998			



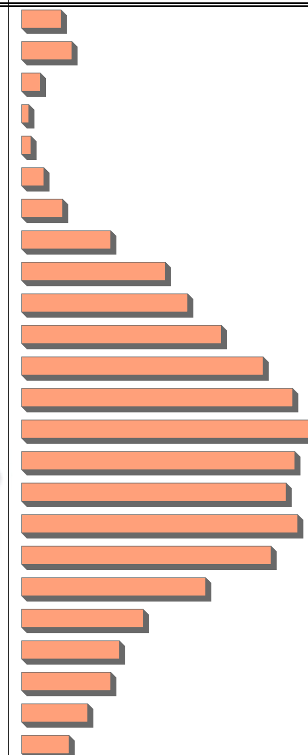
Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: SR-227 just north of Buckley Rd
SPECIFIC LOCATION: SR-227 just north of Buckley Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607202
DIRECTION: SB
DATE: Jan 30 2016 - Jan 31 2016

Start Time	Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM	65	44	55	
1:00 AM	112	27	70	
2:00 AM	38	13	26	
3:00 AM	14	5	10	
4:00 AM	21	5	13	
5:00 AM	35	26	31	
6:00 AM	72	42	57	
7:00 AM	183	65	124	
8:00 AM	292	108	200	
9:00 AM	304	157	231	
10:00 AM	344	211	278	
11:00 AM	**427**	**244**	**336**	
12:00 PM	449	304	377	
1:00 PM	**497**	303	**400**	
2:00 PM	445	315	380	
3:00 PM	422	314	368	
4:00 PM	428	**339**	384	
5:00 PM	388	305	347	
6:00 PM	266	245	256	
7:00 PM	187	150	169	
8:00 PM	159	113	136	
9:00 PM	130	118	124	
10:00 PM	95	88	92	
11:00 PM	95	36	66	
Day Total	5468	3577	4530	
% Weekday Average				
% Week Average	120.7%	79.0%		
AM Peak Volume	11:00 AM 427	11:00 AM 244	11:00 AM 336	
PM Peak Volume	1:00 PM 497	4:00 PM 339	1:00 PM 400	

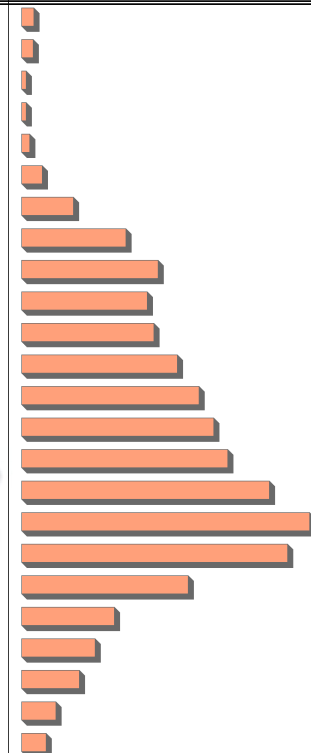


Comments:

LOCATION: SR-227 just north of Buckley Rd
SPECIFIC LOCATION: SR-227 just north of Buckley Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607202
DIRECTION: SB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	19	26	25	34	35	28	65	44	35	
1:00 AM	12	12	23	19	28	19	112	27	33	
2:00 AM	2	10	10	6	13	8	38	13	13	
3:00 AM	18	16	9	14	14	14	14	5	13	
4:00 AM	23	24	30	30	30	27	21	5	23	
5:00 AM	67	75	64	72	74	70	35	26	59	
6:00 AM	169	189	202	181	179	184	72	42	148	
7:00 AM	342	377	360	360	397	367	183	65	298	
8:00 AM	380	490	**479**	**477**	501	465	292	108	390	
9:00 AM	**462**	391	369	383	445	410	304	157	359	
10:00 AM	416	427	395	419	435	418	344	211	378	
11:00 AM	461	**496**	470	472	**547**	**489**	**427**	**244**	**445**	
12:00 PM	537	547	522	587	605	560	449	304	507	
1:00 PM	573	551	610	647	663	609	**497**	303	549	
2:00 PM	618	689	654	687	714	672	445	315	589	
3:00 PM	799	871	757	846	950	845	422	314	708	
4:00 PM	**983**	**980**	**998**	**1029**	**1002**	**998**	428	**339**	**823**	
5:00 PM	894	933	939	918	942	925	388	305	760	
6:00 PM	562	570	556	595	535	564	266	245	476	
7:00 PM	286	310	333	308	283	304	187	150	265	
8:00 PM	255	229	236	262	213	239	159	113	210	
9:00 PM	142	126	185	235	216	181	130	118	165	
10:00 PM	76	74	75	126	155	101	95	88	98	
11:00 PM	60	70	56	78	92	71	95	36	70	
Day Total	8156	8483	8357	8785	9068	8568	5468	3577	7414	
% Weekday Average	95.2%	99.0%	97.5%	102.5%	105.8%					
% Week Average	110.0%	114.4%	112.7%	118.5%	122.3%	115.6%	73.8%	48.2%		
AM Peak	9:00 AM	11:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	
Volume	462	496	479	477	547	489	427	244	445	
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	1:00 PM	4:00 PM	4:00 PM	
Volume	983	980	998	1029	1002	998	497	339	823	

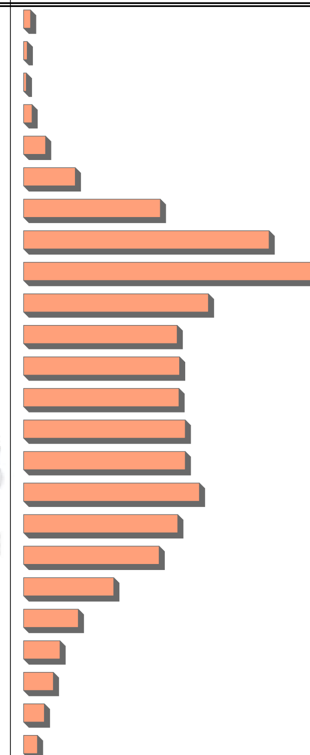


Comments:

LOCATION: SR-227 just north of Crestmont Dr
SPECIFIC LOCATION: SR-227 just north of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607203
DIRECTION: NB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	13	15	8	11	15	12	53	45	23	
1:00 AM	8	7	11	14	10	10	18	16	12	
2:00 AM	8	11	4	9	7	8	17	10	9	
3:00 AM	33	25	30	36	35	32	29	10	28	
4:00 AM	82	92	94	84	87	88	36	34	73	
5:00 AM	211	235	214	207	192	212	84	61	172	
6:00 AM	590	611	596	620	555	594	131	79	455	
7:00 AM	1014	1146	1079	1117	1061	1083	206	98	817	
8:00 AM	**1087**	**1440**	**1250**	**1199**	**1174**	**1230**	346	200	**957**	
9:00 AM	886	724	665	723	683	736	397	228	615	
10:00 AM	553	532	565	574	571	559	468	**316**	511	
11:00 AM	557	563	560	547	594	564	**499**	316	519	
12:00 PM	570	592	529	510	601	560	492	325	517	
1:00 PM	515	557	597	649	585	581	**493**	**373**	538	
2:00 PM	533	580	580	585	662	588	456	368	538	
3:00 PM	**626**	**672**	**628**	**721**	**711**	**672**	409	327	**585**	
4:00 PM	517	578	576	580	604	571	431	308	513	
5:00 PM	460	498	501	571	532	512	341	254	451	
6:00 PM	282	304	338	355	386	333	246	192	300	
7:00 PM	175	187	199	203	193	191	186	132	182	
8:00 PM	113	126	110	132	141	124	113	112	121	
9:00 PM	66	77	107	103	129	96	133	76	99	
10:00 PM	52	54	39	54	139	68	106	41	69	
11:00 PM	30	28	23	29	102	42	77	32	46	
Day Total	8981	9654	9303	9633	9769	9466	5767	3953	8150	
% Weekday Average	94.9%	102.0%	98.3%	101.8%	103.2%					
% Week Average	110.2%	118.5%	114.1%	118.2%	119.9%	116.1%	70.8%	48.5%		
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	10:00 AM	8:00 AM	
Volume	1087	1440	1250	1199	1174	1230	499	316	957	
PM Peak	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	1:00 PM	1:00 PM	3:00 PM	
Volume	626	672	628	721	711	672	493	373	585	



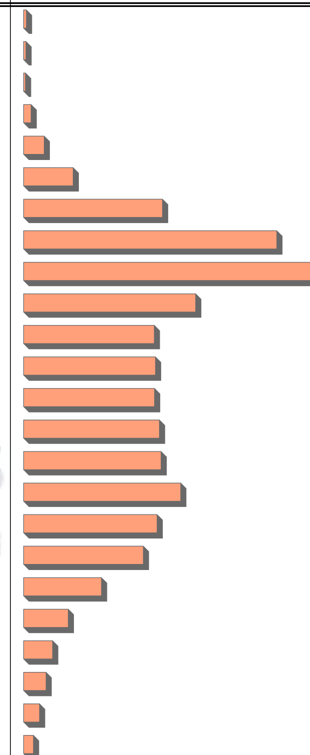
Comments:

LOCATION: SR-227 just north of Crestmont Dr
SPECIFIC LOCATION: SR-227 just north of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607203
DIRECTION: NB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic
12:00 AM	13	15	8	11	15	12
1:00 AM	8	7	11	14	10	10
2:00 AM	8	11	4	9	7	8
3:00 AM	33	25	30	36	35	32
4:00 AM	82	92	94	84	87	88
5:00 AM	211	235	214	207	192	212
6:00 AM	590	611	596	620	555	594
7:00 AM	1014	1146	1079	1117	1061	1083
8:00 AM	**1087**	**1440**	**1250**	**1199**	**1174**	**1230**
9:00 AM	886	724	665	723	683	736
10:00 AM	553	532	565	574	571	559
11:00 AM	557	563	560	547	594	564
12:00 PM	570	592	529	510	601	560
1:00 PM	515	557	597	649	585	581
2:00 PM	533	580	580	585	662	588
3:00 PM	**626**	**672**	**628**	**721**	**711**	**672**
4:00 PM	517	578	576	580	604	571
5:00 PM	460	498	501	571	532	512
6:00 PM	282	304	338	355	386	333
7:00 PM	175	187	199	203	193	191
8:00 PM	113	126	110	132	141	124
9:00 PM	66	77	107	103	129	96
10:00 PM	52	54	39	54	139	68
11:00 PM	30	28	23	29	102	42
Day Total	8981	9654	9303	9633	9769	9466
% Weekday Average	94.9%	102.0%	98.3%	101.8%	103.2%	
% Week Average						
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM
Volume	1087	1440	1250	1199	1174	1230
PM Peak	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM
Volume	626	672	628	721	711	672

Average Weekday Profile

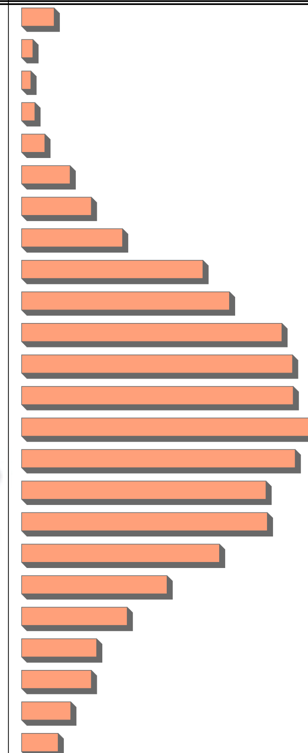


Comments:

LOCATION: SR-227 just north of Crestmont Dr
SPECIFIC LOCATION: SR-227 just north of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607203
DIRECTION: NB
DATE: Jan 30 2016 - Jan 31 2016

Start Time	Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM	53	45	49	
1:00 AM	18	16	17	
2:00 AM	17	10	14	
3:00 AM	29	10	20	
4:00 AM	36	34	35	
5:00 AM	84	61	73	
6:00 AM	131	79	105	
7:00 AM	206	98	152	
8:00 AM	346	200	273	
9:00 AM	397	228	313	
10:00 AM	468	**316**	392	
11:00 AM	**499**	316	**408**	
12:00 PM	492	325	409	
1:00 PM	**493**	**373**	**433**	
2:00 PM	456	368	412	
3:00 PM	409	327	368	
4:00 PM	431	308	370	
5:00 PM	341	254	298	
6:00 PM	246	192	219	
7:00 PM	186	132	159	
8:00 PM	113	112	113	
9:00 PM	133	76	105	
10:00 PM	106	41	74	
11:00 PM	77	32	55	
Day Total	5767	3953	4866	
% Weekday Average				
% Week Average	118.5%	81.2%		
AM Peak Volume	11:00 AM 499	10:00 AM 316	11:00 AM 408	
PM Peak Volume	1:00 PM 493	1:00 PM 373	1:00 PM 433	

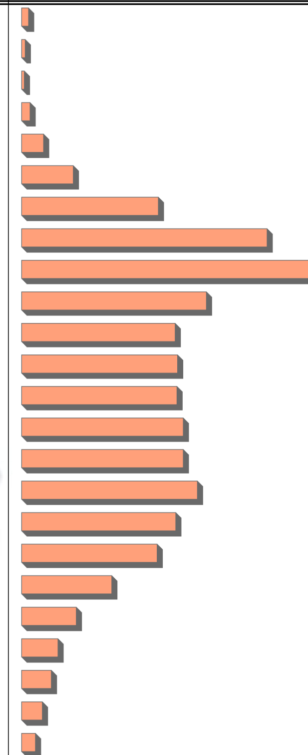


Comments:

LOCATION: SR-227 just north of Crestmont Dr
SPECIFIC LOCATION: SR-227 just north of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607203
DIRECTION: NB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	13	15	8	11	15	12	53	45	23	
1:00 AM	8	7	11	14	10	10	18	16	12	
2:00 AM	8	11	4	9	7	8	17	10	9	
3:00 AM	33	25	30	36	35	32	29	10	28	
4:00 AM	82	92	94	84	87	88	36	34	73	
5:00 AM	211	235	214	207	192	212	84	61	172	
6:00 AM	590	611	596	620	555	594	131	79	455	
7:00 AM	1014	1146	1079	1117	1061	1083	206	98	817	
8:00 AM	**1087**	**1440**	**1250**	**1199**	**1174**	**1230**	346	200	**957**	
9:00 AM	886	724	665	723	683	736	397	228	615	
10:00 AM	553	532	565	574	571	559	468	**316**	511	
11:00 AM	557	563	560	547	594	564	**499**	316	519	
12:00 PM	570	592	529	510	601	560	492	325	517	
1:00 PM	515	557	597	649	585	581	**493**	**373**	538	
2:00 PM	533	580	580	585	662	588	456	368	538	
3:00 PM	**626**	**672**	**628**	**721**	**711**	**672**	409	327	**585**	
4:00 PM	517	578	576	580	604	571	431	308	513	
5:00 PM	460	498	501	571	532	512	341	254	451	
6:00 PM	282	304	338	355	386	333	246	192	300	
7:00 PM	175	187	199	203	193	191	186	132	182	
8:00 PM	113	126	110	132	141	124	113	112	121	
9:00 PM	66	77	107	103	129	96	133	76	99	
10:00 PM	52	54	39	54	139	68	106	41	69	
11:00 PM	30	28	23	29	102	42	77	32	46	
Day Total	8981	9654	9303	9633	9769	9466	5767	3953	8150	
% Weekday Average	94.9%	102.0%	98.3%	101.8%	103.2%					
% Week Average	110.2%	118.5%	114.1%	118.2%	119.9%	116.1%	70.8%	48.5%		
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	10:00 AM	8:00 AM	
Volume	1087	1440	1250	1199	1174	1230	499	316	957	
PM Peak	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	1:00 PM	1:00 PM	3:00 PM	
Volume	626	672	628	721	711	672	493	373	585	



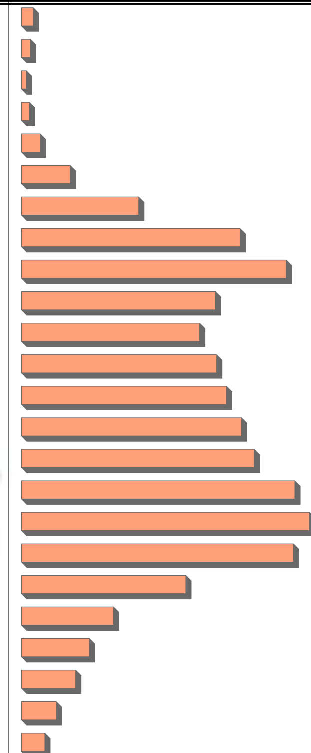
Comments:

LOCATION: SR-227 just north of Crestmont Dr
SPECIFIC LOCATION: SR-227 just north of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607203
DIRECTION: NB/SB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic
12:00 AM	34	46	39	46	54	44	119	96	62
1:00 AM	24	22	33	36	36	30	130	48	47
2:00 AM	11	24	22	17	22	19	60	23	26
3:00 AM	48	39	37	52	54	46	48	17	42
4:00 AM	109	121	123	110	122	117	58	43	98
5:00 AM	313	343	300	310	305	314	126	87	255
6:00 AM	772	809	827	791	736	787	224	125	612
7:00 AM	1393	1575	1506	1520	1485	1496	337	172	1141
8:00 AM	**1500**	**1999**	**1801**	**1727**	**1777**	**1761**	559	314	**1382**
9:00 AM	1418	1147	1105	1177	1140	1197	702	405	1013
10:00 AM	969	998	1007	1067	1071	1022	860	538	930
11:00 AM	1065	1122	1074	1076	1194	1106	**997**	**607**	1019
12:00 PM	1156	1173	1105	1120	1248	1160	1028	661	1070
1:00 PM	1130	1164	1275	1365	1300	1247	**1063**	745	1149
2:00 PM	1247	1351	1325	1371	1475	1354	980	**753**	1215
3:00 PM	1586	1730	1550	1695	1797	1672	930	703	1427
4:00 PM	**1687**	**1764**	**1760**	**1860**	**1814**	**1777**	942	692	**1503**
5:00 PM	1625	1717	1676	1774	1724	1703	803	622	1420
6:00 PM	955	971	982	1045	1007	992	572	471	858
7:00 PM	501	533	571	556	522	537	388	295	481
8:00 PM	366	384	384	421	394	390	290	245	355
9:00 PM	225	221	309	366	377	300	279	204	283
10:00 PM	142	142	134	197	315	186	214	133	182
11:00 PM	91	106	86	118	195	119	189	72	122
Day Total	18367	19501	19031	19817	20164	19376	11898	8071	16692
% Weekday Average	94.8%	100.6%	98.2%	102.3%	104.1%				
% Week Average	110.0%	116.8%	114.0%	118.7%	120.8%	116.1%	71.3%	48.4%	
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM
Volume	1500	1999	1801	1727	1777	1761	997	607	1382
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	1:00 PM	2:00 PM	4:00 PM
Volume	1687	1764	1760	1860	1814	1777	1063	753	1503

Average Week Profile



Comments:

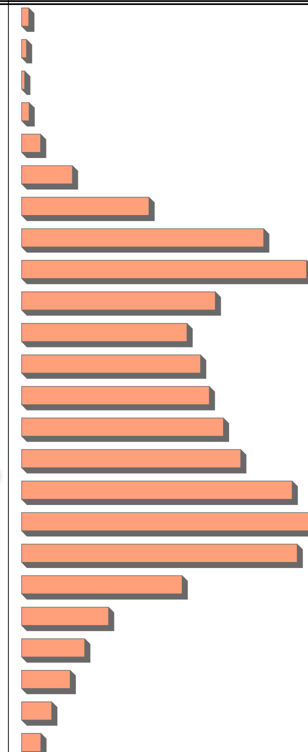
Report generated on 2/8/2016 3:40 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: SR-227 just north of Crestmont Dr
SPECIFIC LOCATION: SR-227 just north of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607203
DIRECTION: NB/SB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic			Average Weekday Profile
12:00 AM	34	46	39	46	54	44			
1:00 AM	24	22	33	36	36	30			
2:00 AM	11	24	22	17	22	19			
3:00 AM	48	39	37	52	54	46			
4:00 AM	109	121	123	110	122	117			
5:00 AM	313	343	300	310	305	314			
6:00 AM	772	809	827	791	736	787			
7:00 AM	1393	1575	1506	1520	1485	1496			
8:00 AM	**1500**	**1999**	**1801**	**1727**	**1777**	**1761**			
9:00 AM	1418	1147	1105	1177	1140	1197			
10:00 AM	969	998	1007	1067	1071	1022			
11:00 AM	1065	1122	1074	1076	1194	1106			
12:00 PM	1156	1173	1105	1120	1248	1160			
1:00 PM	1130	1164	1275	1365	1300	1247			
2:00 PM	1247	1351	1325	1371	1475	1354			
3:00 PM	1586	1730	1550	1695	1797	1672			
4:00 PM	**1687**	**1764**	**1760**	**1860**	**1814**	**1777**			
5:00 PM	1625	1717	1676	1774	1724	1703			
6:00 PM	955	971	982	1045	1007	992			
7:00 PM	501	533	571	556	522	537			
8:00 PM	366	384	384	421	394	390			
9:00 PM	225	221	309	366	377	300			
10:00 PM	142	142	134	197	315	186			
11:00 PM	91	106	86	118	195	119			
Day Total	18367	19501	19031	19817	20164	19376			
% Weekday Average % Week Average	94.8%	100.6%	98.2%	102.3%	104.1%				
AM Peak Volume	8:00 AM 1500	8:00 AM 1999	8:00 AM 1801	8:00 AM 1727	8:00 AM 1777	8:00 AM 1761			
PM Peak Volume	4:00 PM 1687	4:00 PM 1764	4:00 PM 1760	4:00 PM 1860	4:00 PM 1814	4:00 PM 1777			



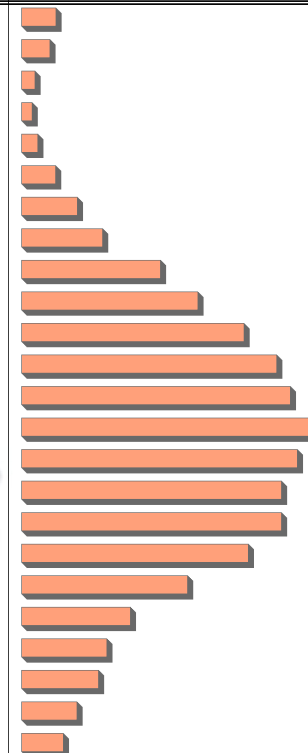
Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: SR-227 just north of Crestmont Dr
SPECIFIC LOCATION: SR-227 just north of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607203
DIRECTION: NB/SB
DATE: Jan 30 2016 - Jan 31 2016

Start Time	Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM	119	96	108	
1:00 AM	130	48	89	
2:00 AM	60	23	42	
3:00 AM	48	17	33	
4:00 AM	58	43	51	
5:00 AM	126	87	107	
6:00 AM	224	125	175	
7:00 AM	337	172	255	
8:00 AM	559	314	437	
9:00 AM	702	405	554	
10:00 AM	860	538	699	
11:00 AM	**997**	**607**	**802**	
12:00 PM	1028	661	845	
1:00 PM	**1063**	745	**904**	
2:00 PM	980	**753**	867	
3:00 PM	930	703	817	
4:00 PM	942	692	817	
5:00 PM	803	622	713	
6:00 PM	572	471	522	
7:00 PM	388	295	342	
8:00 PM	290	245	268	
9:00 PM	279	204	242	
10:00 PM	214	133	174	
11:00 PM	189	72	131	
Day Total	11898	8071	9994	
% Weekday Average				
% Week Average	119.1%	80.8%		
AM Peak Volume	11:00 AM 997	11:00 AM 607	11:00 AM 802	
PM Peak Volume	1:00 PM 1063	2:00 PM 753	1:00 PM 904	



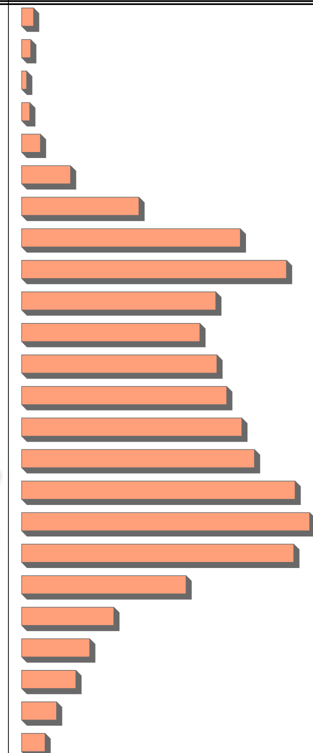
Comments:

LOCATION: SR-227 just north of Crestmont Dr
SPECIFIC LOCATION: SR-227 just north of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607203
DIRECTION: NB/SB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic
12:00 AM	34	46	39	46	54	44	119	96	62
1:00 AM	24	22	33	36	36	30	130	48	47
2:00 AM	11	24	22	17	22	19	60	23	26
3:00 AM	48	39	37	52	54	46	48	17	42
4:00 AM	109	121	123	110	122	117	58	43	98
5:00 AM	313	343	300	310	305	314	126	87	255
6:00 AM	772	809	827	791	736	787	224	125	612
7:00 AM	1393	1575	1506	1520	1485	1496	337	172	1141
8:00 AM	**1500**	**1999**	**1801**	**1727**	**1777**	**1761**	559	314	**1382**
9:00 AM	1418	1147	1105	1177	1140	1197	702	405	1013
10:00 AM	969	998	1007	1067	1071	1022	860	538	930
11:00 AM	1065	1122	1074	1076	1194	1106	**997**	**607**	1019
12:00 PM	1156	1173	1105	1120	1248	1160	1028	661	1070
1:00 PM	1130	1164	1275	1365	1300	1247	**1063**	745	1149
2:00 PM	1247	1351	1325	1371	1475	1354	980	**753**	1215
3:00 PM	1586	1730	1550	1695	1797	1672	930	703	1427
4:00 PM	**1687**	**1764**	**1760**	**1860**	**1814**	**1777**	942	692	**1503**
5:00 PM	1625	1717	1676	1774	1724	1703	803	622	1420
6:00 PM	955	971	982	1045	1007	992	572	471	858
7:00 PM	501	533	571	556	522	537	388	295	481
8:00 PM	366	384	384	421	394	390	290	245	355
9:00 PM	225	221	309	366	377	300	279	204	283
10:00 PM	142	142	134	197	315	186	214	133	182
11:00 PM	91	106	86	118	195	119	189	72	122
Day Total	18367	19501	19031	19817	20164	19376	11898	8071	16692
% Weekday Average	94.8%	100.6%	98.2%	102.3%	104.1%				
% Week Average	110.0%	116.8%	114.0%	118.7%	120.8%	116.1%	71.3%	48.4%	
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM
Volume	1500	1999	1801	1727	1777	1761	997	607	1382
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	1:00 PM	2:00 PM	4:00 PM
Volume	1687	1764	1760	1860	1814	1777	1063	753	1503

Average Week Profile

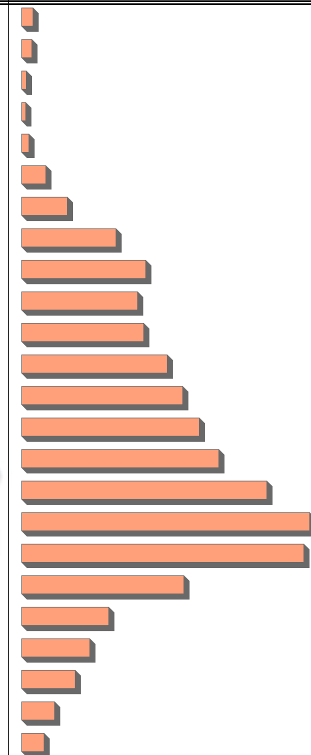


Comments:

LOCATION: SR-227 just north of Crestmont Dr
SPECIFIC LOCATION: SR-227 just north of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607203
DIRECTION: SB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	21	31	31	35	39	31	66	51	39	
1:00 AM	16	15	22	22	26	20	112	32	35	
2:00 AM	3	13	18	8	15	11	43	13	16	
3:00 AM	15	14	7	16	19	14	19	7	14	
4:00 AM	27	29	29	26	35	29	22	9	25	
5:00 AM	102	108	86	103	113	102	42	26	83	
6:00 AM	182	198	231	171	181	193	93	46	157	
7:00 AM	379	429	427	403	424	412	131	74	324	
8:00 AM	413	**559**	**551**	528	**603**	531	213	114	426	
9:00 AM	**532**	423	440	454	457	461	305	177	398	
10:00 AM	416	466	442	493	500	463	392	222	419	
11:00 AM	508	559	514	**529**	600	**542**	**498**	**291**	**500**	
12:00 PM	586	581	576	610	647	600	536	336	553	
1:00 PM	615	607	678	716	715	666	**570**	372	610	
2:00 PM	714	771	745	786	813	766	524	**385**	677	
3:00 PM	960	1058	922	974	1086	1000	521	376	842	
4:00 PM	**1170**	1186	**1184**	**1280**	**1210**	**1206**	511	384	**989**	
5:00 PM	1165	**1219**	1175	1203	1192	1191	462	368	969	
6:00 PM	673	667	644	690	621	659	326	279	557	
7:00 PM	326	346	372	353	329	345	202	163	299	
8:00 PM	253	258	274	289	253	265	177	133	234	
9:00 PM	159	144	202	263	248	203	146	128	184	
10:00 PM	90	88	95	143	176	118	108	92	113	
11:00 PM	61	78	63	89	93	77	112	40	77	
Day Total	9386	9847	9728	10184	10395	9905	6131	4118	8540	
% Weekday Average	94.8%	99.4%	98.2%	102.8%	104.9%					
% Week Average	109.9%	115.3%	113.9%	119.3%	121.7%	116.0%	71.8%	48.2%		
AM Peak	9:00 AM	8:00 AM	8:00 AM	11:00 AM	8:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	
Volume	532	559	551	529	603	542	498	291	500	
PM Peak	4:00 PM	5:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	1:00 PM	2:00 PM	4:00 PM	
Volume	1170	1219	1184	1280	1210	1206	570	385	989	



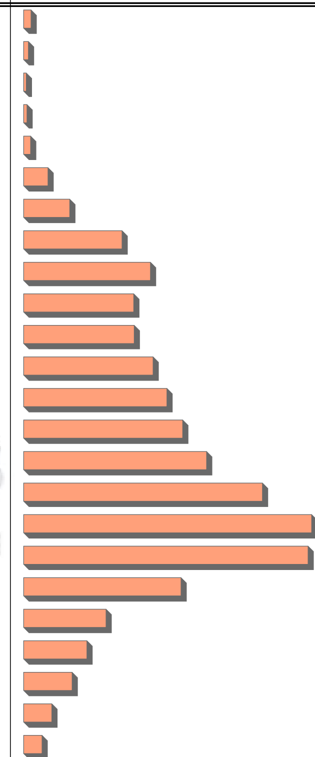
Comments:

LOCATION: SR-227 just north of Crestmont Dr
SPECIFIC LOCATION: SR-227 just north of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607203
DIRECTION: SB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic
12:00 AM	21	31	31	35	39	31
1:00 AM	16	15	22	22	26	20
2:00 AM	3	13	18	8	15	11
3:00 AM	15	14	7	16	19	14
4:00 AM	27	29	29	26	35	29
5:00 AM	102	108	86	103	113	102
6:00 AM	182	198	231	171	181	193
7:00 AM	379	429	427	403	424	412
8:00 AM	413	**559**	**551**	528	**603**	531
9:00 AM	**532**	423	440	454	457	461
10:00 AM	416	466	442	493	500	463
11:00 AM	508	559	514	**529**	600	**542**
12:00 PM	586	581	576	610	647	600
1:00 PM	615	607	678	716	715	666
2:00 PM	714	771	745	786	813	766
3:00 PM	960	1058	922	974	1086	1000
4:00 PM	**1170**	1186	**1184**	**1280**	**1210**	**1206**
5:00 PM	1165	**1219**	1175	1203	1192	1191
6:00 PM	673	667	644	690	621	659
7:00 PM	326	346	372	353	329	345
8:00 PM	253	258	274	289	253	265
9:00 PM	159	144	202	263	248	203
10:00 PM	90	88	95	143	176	118
11:00 PM	61	78	63	89	93	77
Day Total	9386	9847	9728	10184	10395	9905
% Weekday Average	94.8%	99.4%	98.2%	102.8%	104.9%	
% Week Average						
AM Peak	9:00 AM	8:00 AM	8:00 AM	11:00 AM	8:00 AM	11:00 AM
Volume	532	559	551	529	603	542
PM Peak	4:00 PM	5:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM
Volume	1170	1219	1184	1280	1210	1206

Average Weekday Profile



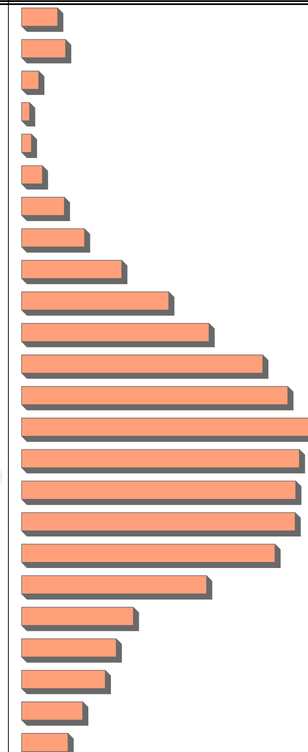
Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: SR-227 just north of Crestmont Dr
SPECIFIC LOCATION: SR-227 just north of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607203
DIRECTION: SB
DATE: Jan 30 2016 - Jan 31 2016

Start Time	Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM	66	51	59	
1:00 AM	112	32	72	
2:00 AM	43	13	28	
3:00 AM	19	7	13	
4:00 AM	22	9	16	
5:00 AM	42	26	34	
6:00 AM	93	46	70	
7:00 AM	131	74	103	
8:00 AM	213	114	164	
9:00 AM	305	177	241	
10:00 AM	392	222	307	
11:00 AM	**498**	**291**	**395**	
12:00 PM	536	336	436	
1:00 PM	**570**	372	**471**	
2:00 PM	524	**385**	455	
3:00 PM	521	376	449	
4:00 PM	511	384	448	
5:00 PM	462	368	415	
6:00 PM	326	279	303	
7:00 PM	202	163	183	
8:00 PM	177	133	155	
9:00 PM	146	128	137	
10:00 PM	108	92	100	
11:00 PM	112	40	76	
Day Total	6131	4118	5130	
% Weekday Average				
% Week Average	119.5%	80.3%		
AM Peak Volume	11:00 AM 498	11:00 AM 291	11:00 AM 395	
PM Peak Volume	1:00 PM 570	2:00 PM 385	1:00 PM 471	

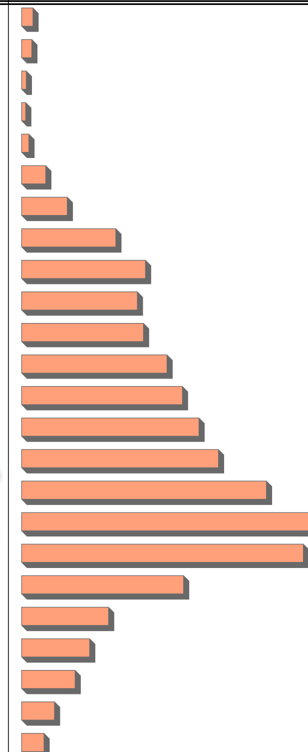


Comments:

LOCATION: SR-227 just north of Crestmont Dr
SPECIFIC LOCATION: SR-227 just north of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607203
DIRECTION: SB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	21	31	31	35	39	31	66	51	39	
1:00 AM	16	15	22	22	26	20	112	32	35	
2:00 AM	3	13	18	8	15	11	43	13	16	
3:00 AM	15	14	7	16	19	14	19	7	14	
4:00 AM	27	29	29	26	35	29	22	9	25	
5:00 AM	102	108	86	103	113	102	42	26	83	
6:00 AM	182	198	231	171	181	193	93	46	157	
7:00 AM	379	429	427	403	424	412	131	74	324	
8:00 AM	413	**559**	**551**	528	**603**	531	213	114	426	
9:00 AM	**532**	423	440	454	457	461	305	177	398	
10:00 AM	416	466	442	493	500	463	392	222	419	
11:00 AM	508	559	514	**529**	600	**542**	**498**	**291**	**500**	
12:00 PM	586	581	576	610	647	600	536	336	553	
1:00 PM	615	607	678	716	715	666	**570**	372	610	
2:00 PM	714	771	745	786	813	766	524	**385**	677	
3:00 PM	960	1058	922	974	1086	1000	521	376	842	
4:00 PM	**1170**	1186	**1184**	**1280**	**1210**	**1206**	511	384	**989**	
5:00 PM	1165	**1219**	1175	1203	1192	1191	462	368	969	
6:00 PM	673	667	644	690	621	659	326	279	557	
7:00 PM	326	346	372	353	329	345	202	163	299	
8:00 PM	253	258	274	289	253	265	177	133	234	
9:00 PM	159	144	202	263	248	203	146	128	184	
10:00 PM	90	88	95	143	176	118	108	92	113	
11:00 PM	61	78	63	89	93	77	112	40	77	
Day Total	9386	9847	9728	10184	10395	9905	6131	4118	8540	
% Weekday Average	94.8%	99.4%	98.2%	102.8%	104.9%					
% Week Average	109.9%	115.3%	113.9%	119.3%	121.7%	116.0%	71.8%	48.2%		
AM Peak	9:00 AM	8:00 AM	8:00 AM	11:00 AM	8:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	
Volume	532	559	551	529	603	542	498	291	500	
PM Peak	4:00 PM	5:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	1:00 PM	2:00 PM	4:00 PM	
Volume	1170	1219	1184	1280	1210	1206	570	385	989	

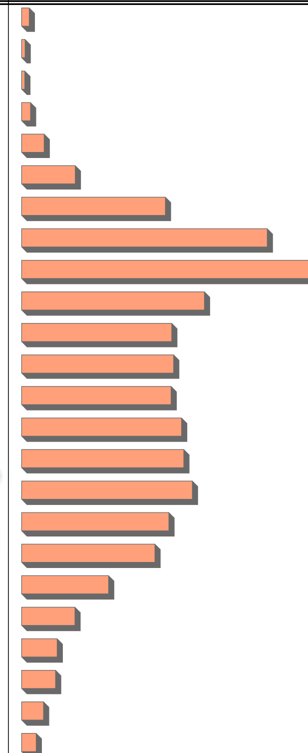


Comments:

LOCATION: SR-227 just south of Crestmont Dr
SPECIFIC LOCATION: SR-227 just south of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607204
DIRECTION: NB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	12	14	8	10	16	12	50	61	24	
1:00 AM	6	6	9	13	11	9	16	16	11	
2:00 AM	8	12	9	10	8	9	16	10	10	
3:00 AM	34	24	31	31	34	31	29	10	28	
4:00 AM	79	92	87	86	82	85	35	38	71	
5:00 AM	207	223	214	207	188	208	82	61	169	
6:00 AM	598	610	586	620	558	594	125	77	453	
7:00 AM	984	1098	1026	1030	1010	1030	188	85	774	
8:00 AM	**1022**	**1386**	**1158**	**1159**	**1118**	**1169**	319	178	**906**	
9:00 AM	818	655	650	676	646	689	374	212	576	
10:00 AM	519	497	527	511	537	518	418	**300**	473	
11:00 AM	502	538	503	515	536	519	**466**	294	479	
12:00 PM	540	529	485	468	530	510	435	309	471	
1:00 PM	478	554	**566**	594	559	550	**444**	336	504	
2:00 PM	519	554	540	549	**645**	561	418	**353**	511	
3:00 PM	**610**	**640**	564	**632**	645	**618**	366	310	**538**	
4:00 PM	456	518	545	496	545	512	398	287	464	
5:00 PM	409	461	464	526	511	474	338	234	420	
6:00 PM	257	287	306	309	354	303	231	176	274	
7:00 PM	167	184	179	181	171	176	167	124	168	
8:00 PM	90	125	102	116	133	113	105	115	112	
9:00 PM	61	76	105	114	126	96	138	127	107	
10:00 PM	47	53	42	55	141	68	102	40	69	
11:00 PM	24	30	22	32	102	42	78	34	46	
Day Total	8447	9166	8728	8940	9206	8896	5338	3787	7658	
% Weekday Average	95.0%	103.0%	98.1%	100.5%	103.5%					
% Week Average	110.3%	119.7%	114.0%	116.7%	120.2%	116.2%	69.7%	49.5%		
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	10:00 AM	8:00 AM	
Volume	1022	1386	1158	1159	1118	1169	466	300	906	
PM Peak	3:00 PM	3:00 PM	1:00 PM	3:00 PM	2:00 PM	3:00 PM	1:00 PM	2:00 PM	3:00 PM	
Volume	610	640	566	632	645	618	444	353	538	

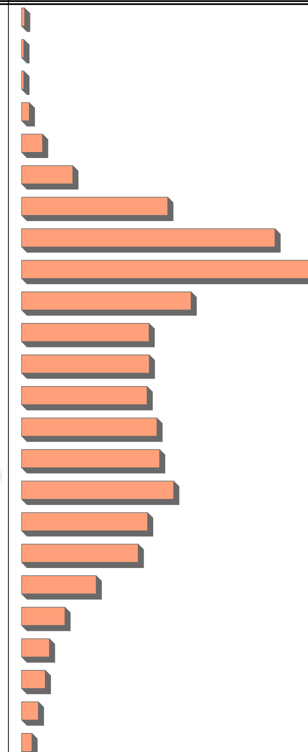


Comments:

LOCATION: SR-227 just south of Crestmont Dr
SPECIFIC LOCATION: SR-227 just south of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607204
DIRECTION: NB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic			Average Weekday Profile
12:00 AM	12	14	8	10	16	12			
1:00 AM	6	6	9	13	11	9			
2:00 AM	8	12	9	10	8	9			
3:00 AM	34	24	31	31	34	31			
4:00 AM	79	92	87	86	82	85			
5:00 AM	207	223	214	207	188	208			
6:00 AM	598	610	586	620	558	594			
7:00 AM	984	1098	1026	1030	1010	1030			
8:00 AM	**1022**	**1386**	**1158**	**1159**	**1118**	**1169**			
9:00 AM	818	655	650	676	646	689			
10:00 AM	519	497	527	511	537	518			
11:00 AM	502	538	503	515	536	519			
12:00 PM	540	529	485	468	530	510			
1:00 PM	478	554	**566**	594	559	550			
2:00 PM	519	554	540	549	**645**	561			
3:00 PM	**610**	**640**	564	**632**	645	**618**			
4:00 PM	456	518	545	496	545	512			
5:00 PM	409	461	464	526	511	474			
6:00 PM	257	287	306	309	354	303			
7:00 PM	167	184	179	181	171	176			
8:00 PM	90	125	102	116	133	113			
9:00 PM	61	76	105	114	126	96			
10:00 PM	47	53	42	55	141	68			
11:00 PM	24	30	22	32	102	42			
Day Total	8447	9166	8728	8940	9206	8896			
% Weekday Average % Week Average	95.0%	103.0%	98.1%	100.5%	103.5%				
AM Peak Volume	8:00 AM 1022	8:00 AM 1386	8:00 AM 1158	8:00 AM 1159	8:00 AM 1118	8:00 AM 1169			
PM Peak Volume	3:00 PM 610	3:00 PM 640	1:00 PM 566	3:00 PM 632	2:00 PM 645	3:00 PM 618			



Comments:

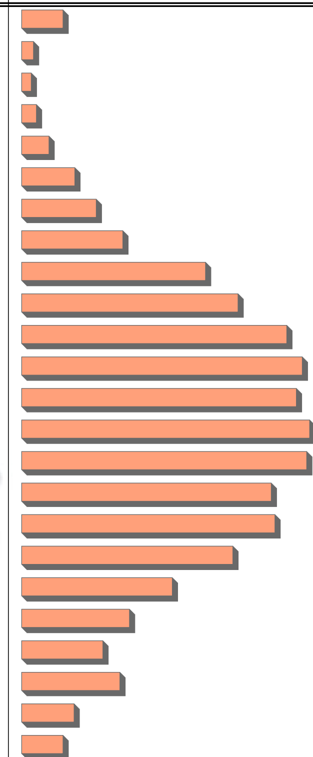
SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: SR-227 just south of Crestmont Dr
SPECIFIC LOCATION: SR-227 just south of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607204
DIRECTION: NB
DATE: Jan 30 2016 - Jan 31 2016

Start Time	Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic
12:00 AM	50	61	56
1:00 AM	16	16	16
2:00 AM	16	10	13
3:00 AM	29	10	20
4:00 AM	35	38	37
5:00 AM	82	61	72
6:00 AM	125	77	101
7:00 AM	188	85	137
8:00 AM	319	178	249
9:00 AM	374	212	293
10:00 AM	418	**300**	359
11:00 AM	**466**	294	**380**
12:00 PM	435	309	372
1:00 PM	**444**	336	**390**
2:00 PM	418	**353**	386
3:00 PM	366	310	338
4:00 PM	398	287	343
5:00 PM	338	234	286
6:00 PM	231	176	204
7:00 PM	167	124	146
8:00 PM	105	115	110
9:00 PM	138	127	133
10:00 PM	102	40	71
11:00 PM	78	34	56
Day Total	5338	3787	4568
% Weekday Average			
% Week Average	116.9%	82.9%	
AM Peak Volume	11:00 AM 466	10:00 AM 300	11:00 AM 380
PM Peak Volume	1:00 PM 444	2:00 PM 353	1:00 PM 390

Average Weekend Profile



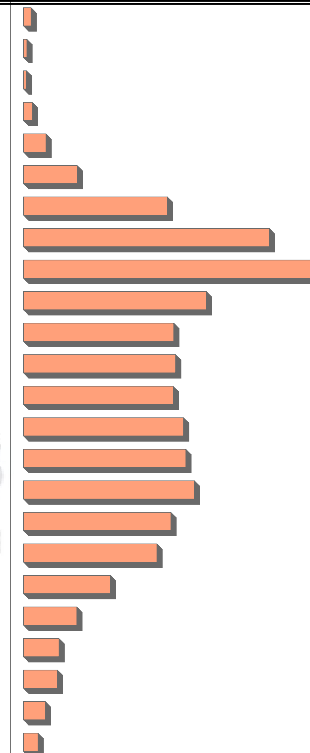
Comments:

SUMMARY - Tube Count - Volume Data (Week)

LOCATION: SR-227 just south of Crestmont Dr
SPECIFIC LOCATION: SR-227 just south of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607204
DIRECTION: NB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	12	14	8	10	16	12	50	61	24	
1:00 AM	6	6	9	13	11	9	16	16	11	
2:00 AM	8	12	9	10	8	9	16	10	10	
3:00 AM	34	24	31	31	34	31	29	10	28	
4:00 AM	79	92	87	86	82	85	35	38	71	
5:00 AM	207	223	214	207	188	208	82	61	169	
6:00 AM	598	610	586	620	558	594	125	77	453	
7:00 AM	984	1098	1026	1030	1010	1030	188	85	774	
8:00 AM	**1022**	**1386**	**1158**	**1159**	**1118**	**1169**	319	178	**906**	
9:00 AM	818	655	650	676	646	689	374	212	576	
10:00 AM	519	497	527	511	537	518	418	**300**	473	
11:00 AM	502	538	503	515	536	519	**466**	294	479	
12:00 PM	540	529	485	468	530	510	435	309	471	
1:00 PM	478	554	**566**	594	559	550	**444**	336	504	
2:00 PM	519	554	540	549	**645**	561	418	**353**	511	
3:00 PM	**610**	**640**	564	**632**	645	**618**	366	310	**538**	
4:00 PM	456	518	545	496	545	512	398	287	464	
5:00 PM	409	461	464	526	511	474	338	234	420	
6:00 PM	257	287	306	309	354	303	231	176	274	
7:00 PM	167	184	179	181	171	176	167	124	168	
8:00 PM	90	125	102	116	133	113	105	115	112	
9:00 PM	61	76	105	114	126	96	138	127	107	
10:00 PM	47	53	42	55	141	68	102	40	69	
11:00 PM	24	30	22	32	102	42	78	34	46	
Day Total	8447	9166	8728	8940	9206	8896	5338	3787	7658	
% Weekday Average	95.0%	103.0%	98.1%	100.5%	103.5%					
% Week Average	110.3%	119.7%	114.0%	116.7%	120.2%	116.2%	69.7%	49.5%		
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	10:00 AM	8:00 AM	
Volume	1022	1386	1158	1159	1118	1169	466	300	906	
PM Peak	3:00 PM	3:00 PM	1:00 PM	3:00 PM	2:00 PM	3:00 PM	1:00 PM	2:00 PM	3:00 PM	
Volume	610	640	566	632	645	618	444	353	538	



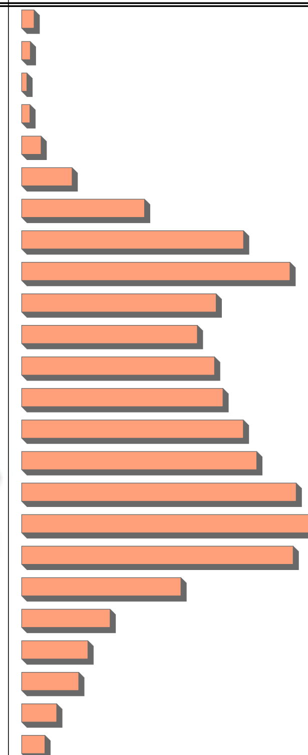
Comments:

Type of report: Tube Count - Volume Data

LOCATION: SR-227 just south of Crestmont Dr
SPECIFIC LOCATION: SR-227 just south of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607204
DIRECTION: NB/SB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	28	41	37	45	52	41	114	119	62	
1:00 AM	20	18	28	35	36	27	126	40	43	
2:00 AM	12	24	25	18	23	20	56	23	26	
3:00 AM	47	37	39	48	53	45	45	16	41	
4:00 AM	102	120	118	114	119	115	57	51	97	
5:00 AM	306	327	314	305	298	310	125	91	252	
6:00 AM	785	809	834	804	730	792	217	122	614	
7:00 AM	1385	1516	1455	1461	1459	1455	329	160	1109	
8:00 AM	**1439**	**1955**	**1746**	**1697**	**1718**	**1711**	529	301	**1341**	
9:00 AM	1358	1079	1075	1102	1130	1149	685	377	972	
10:00 AM	928	962	950	985	1017	968	794	512	878	
11:00 AM	990	1084	1011	1001	1141	1045	**950**	**573**	964	
12:00 PM	1096	1114	1033	1047	1165	1091	958	628	1006	
1:00 PM	1098	1157	1261	1295	1251	1212	**995**	698	1108	
2:00 PM	1239	1304	1289	1319	1442	1319	921	**714**	1175	
3:00 PM	1540	1679	1463	1634	**1751**	1613	862	674	1372	
4:00 PM	**1638**	**1705**	**1729**	**1747**	1726	**1709**	891	661	**1442**	
5:00 PM	1543	1655	1610	1689	1663	1632	772	566	1357	
6:00 PM	887	923	924	969	918	924	532	417	796	
7:00 PM	467	492	522	495	492	494	345	278	442	
8:00 PM	333	356	352	396	368	361	272	239	331	
9:00 PM	202	211	292	358	348	282	277	310	285	
10:00 PM	132	139	125	190	308	179	209	125	175	
11:00 PM	80	100	78	111	195	113	174	76	116	
Day Total	17655	18807	18310	18865	19403	18607	11235	7771	16004	
% Weekday Average	94.9%	101.1%	98.4%	101.4%	104.3%					
% Week Average	110.3%	117.5%	114.4%	117.9%	121.2%	116.3%	70.2%	48.6%		
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM	
Volume	1439	1955	1746	1697	1718	1711	950	573	1341	
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	3:00 PM	4:00 PM	1:00 PM	2:00 PM	4:00 PM	
Volume	1638	1705	1729	1747	1751	1709	995	714	1442	



Comments:

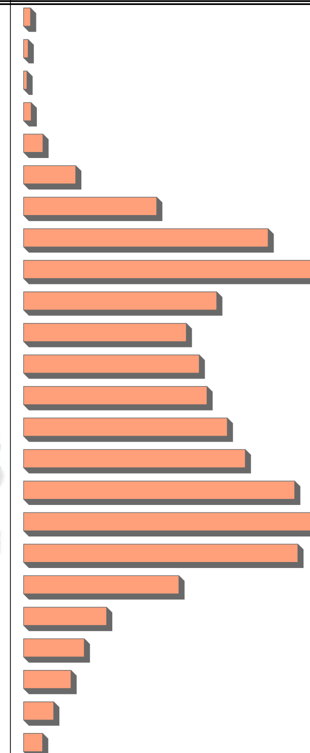
SUMMARY - Tube Count - Volume Data (Weekday)

LOCATION: SR-227 just south of Crestmont Dr
SPECIFIC LOCATION: SR-227 just south of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607204
DIRECTION: NB/SB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic
12:00 AM	28	41	37	45	52	41
1:00 AM	20	18	28	35	36	27
2:00 AM	12	24	25	18	23	20
3:00 AM	47	37	39	48	53	45
4:00 AM	102	120	118	114	119	115
5:00 AM	306	327	314	305	298	310
6:00 AM	785	809	834	804	730	792
7:00 AM	1385	1516	1455	1461	1459	1455
8:00 AM	**1439**	**1955**	**1746**	**1697**	**1718**	**1711**
9:00 AM	1358	1079	1075	1102	1130	1149
10:00 AM	928	962	950	985	1017	968
11:00 AM	990	1084	1011	1001	1141	1045
12:00 PM	1096	1114	1033	1047	1165	1091
1:00 PM	1098	1157	1261	1295	1251	1212
2:00 PM	1239	1304	1289	1319	1442	1319
3:00 PM	1540	1679	1463	1634	**1751**	1613
4:00 PM	**1638**	**1705**	**1729**	**1747**	1726	**1709**
5:00 PM	1543	1655	1610	1689	1663	1632
6:00 PM	887	923	924	969	918	924
7:00 PM	467	492	522	495	492	494
8:00 PM	333	356	352	396	368	361
9:00 PM	202	211	292	358	348	282
10:00 PM	132	139	125	190	308	179
11:00 PM	80	100	78	111	195	113
Day Total	17655	18807	18310	18865	19403	18607
% Weekday Average	94.9%	101.1%	98.4%	101.4%	104.3%	
% Week Average						
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM
Volume	1439	1955	1746	1697	1718	1711
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	3:00 PM	4:00 PM
Volume	1638	1705	1729	1747	1751	1709

Average Weekday Profile

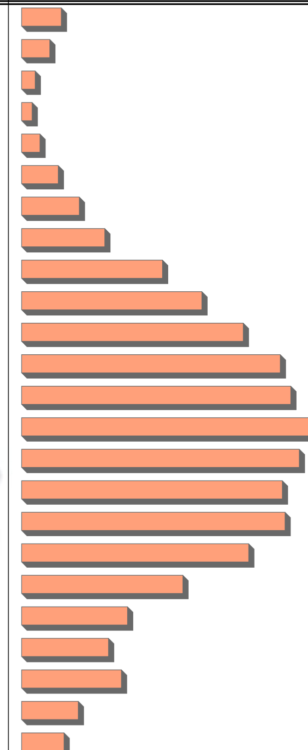


Comments:

LOCATION: SR-227 just south of Crestmont Dr
SPECIFIC LOCATION: SR-227 just south of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607204
DIRECTION: NB/SB
DATE: Jan 30 2016 - Jan 31 2016

Start Time			Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM			114	119	117	
1:00 AM			126	40	83	
2:00 AM			56	23	40	
3:00 AM			45	16	31	
4:00 AM			57	51	54	
5:00 AM			125	91	108	
6:00 AM			217	122	170	
7:00 AM			329	160	245	
8:00 AM			529	301	415	
9:00 AM			685	377	531	
10:00 AM			794	512	653	
11:00 AM			**950**	**573**	**762**	
12:00 PM			958	628	793	
1:00 PM			**995**	698	**847**	
2:00 PM			921	**714**	818	
3:00 PM			862	674	768	
4:00 PM			891	661	776	
5:00 PM			772	566	669	
6:00 PM			532	417	475	
7:00 PM			345	278	312	
8:00 PM			272	239	256	
9:00 PM			277	310	294	
10:00 PM			209	125	167	
11:00 PM			174	76	125	
Day Total			11235	7771	9509	
% Weekday Average						
% Week Average			118.2%	81.7%		
AM Peak Volume			11:00 AM 950	11:00 AM 573	11:00 AM 762	
PM Peak Volume			1:00 PM 995	2:00 PM 714	1:00 PM 847	



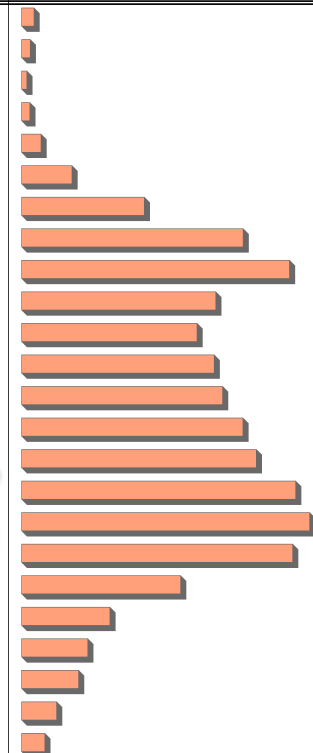
Comments:

SUMMARY - Tube Count - Volume Data (Week)

LOCATION: SR-227 just south of Crestmont Dr
SPECIFIC LOCATION: SR-227 just south of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607204
DIRECTION: NB/SB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	28	41	37	45	52	41	114	119	62	
1:00 AM	20	18	28	35	36	27	126	40	43	
2:00 AM	12	24	25	18	23	20	56	23	26	
3:00 AM	47	37	39	48	53	45	45	16	41	
4:00 AM	102	120	118	114	119	115	57	51	97	
5:00 AM	306	327	314	305	298	310	125	91	252	
6:00 AM	785	809	834	804	730	792	217	122	614	
7:00 AM	1385	1516	1455	1461	1459	1455	329	160	1109	
8:00 AM	**1439**	**1955**	**1746**	**1697**	**1718**	**1711**	529	301	**1341**	
9:00 AM	1358	1079	1075	1102	1130	1149	685	377	972	
10:00 AM	928	962	950	985	1017	968	794	512	878	
11:00 AM	990	1084	1011	1001	1141	1045	**950**	**573**	964	
12:00 PM	1096	1114	1033	1047	1165	1091	958	628	1006	
1:00 PM	1098	1157	1261	1295	1251	1212	**995**	698	1108	
2:00 PM	1239	1304	1289	1319	1442	1319	921	**714**	1175	
3:00 PM	1540	1679	1463	1634	**1751**	1613	862	674	1372	
4:00 PM	**1638**	**1705**	**1729**	**1747**	1726	**1709**	891	661	**1442**	
5:00 PM	1543	1655	1610	1689	1663	1632	772	566	1357	
6:00 PM	887	923	924	969	918	924	532	417	796	
7:00 PM	467	492	522	495	492	494	345	278	442	
8:00 PM	333	356	352	396	368	361	272	239	331	
9:00 PM	202	211	292	358	348	282	277	310	285	
10:00 PM	132	139	125	190	308	179	209	125	175	
11:00 PM	80	100	78	111	195	113	174	76	116	
Day Total	17655	18807	18310	18865	19403	18607	11235	7771	16004	
% Weekday Average	94.9%	101.1%	98.4%	101.4%	104.3%					
% Week Average	110.3%	117.5%	114.4%	117.9%	121.2%	116.3%	70.2%	48.6%		
AM Peak	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM	
Volume	1439	1955	1746	1697	1718	1711	950	573	1341	
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	3:00 PM	4:00 PM	1:00 PM	2:00 PM	4:00 PM	
Volume	1638	1705	1729	1747	1751	1709	995	714	1442	



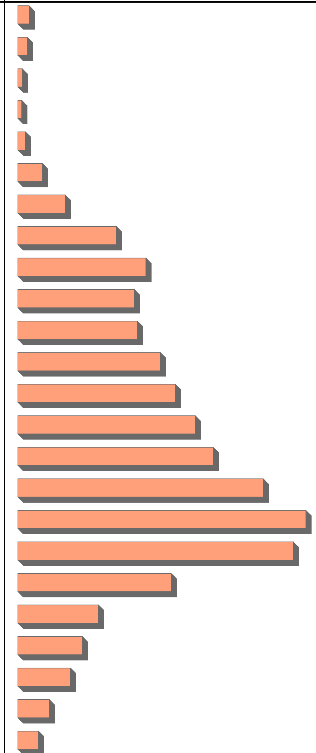
Comments:

LOCATION: SR-227 just south of Crestmont Dr
SPECIFIC LOCATION: SR-227 just south of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607204
DIRECTION: SB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic
12:00 AM	16	27	29	35	36	29	64	58	38
1:00 AM	14	12	19	22	25	18	110	24	32
2:00 AM	4	12	16	8	15	11	40	13	15
3:00 AM	13	13	8	17	19	14	16	6	13
4:00 AM	23	28	31	28	37	29	22	13	26
5:00 AM	99	104	100	98	110	102	43	30	83
6:00 AM	187	199	248	184	172	198	92	45	161
7:00 AM	401	418	429	431	449	426	141	75	335
8:00 AM	417	**569**	**588**	**538**	600	**542**	210	123	435
9:00 AM	**540**	424	425	426	484	460	311	165	396
10:00 AM	409	465	423	474	480	450	376	212	406
11:00 AM	488	546	508	486	**605**	527	**484**	**279**	**485**
12:00 PM	556	585	548	579	635	581	523	319	535
1:00 PM	620	603	695	701	692	662	**551**	362	603
2:00 PM	720	750	749	770	797	757	503	361	664
3:00 PM	930	1039	899	1002	1106	995	496	364	834
4:00 PM	**1182**	1187	**1184**	**1251**	**1181**	**1197**	493	**374**	**979**
5:00 PM	1134	**1194**	1146	1163	1152	1158	434	332	936
6:00 PM	630	636	618	660	564	622	301	241	521
7:00 PM	300	308	343	314	321	317	178	154	274
8:00 PM	243	231	250	280	235	248	167	124	219
9:00 PM	141	135	187	244	222	186	139	183	179
10:00 PM	85	86	83	135	167	111	107	85	107
11:00 PM	56	70	56	79	93	71	96	42	70
Day Total	9208	9641	9582	9925	10197	9711	5897	3984	8346
% Weekday Average	94.8%	99.3%	98.7%	102.2%	105.0%				
% Week Average	110.3%	115.5%	114.8%	118.9%	122.2%	116.4%	70.7%	47.7%	
AM Peak	9:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	8:00 AM	11:00 AM	11:00 AM	11:00 AM
Volume	540	569	588	538	605	542	484	279	485
PM Peak	4:00 PM	5:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	1:00 PM	4:00 PM	4:00 PM
Volume	1182	1194	1184	1251	1181	1197	551	374	979

Average Week Profile



Comments:

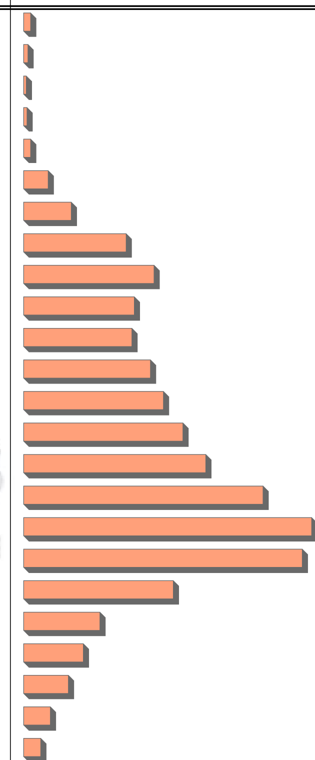
SUMMARY - Tube Count - Volume Data (Weekday)

LOCATION: SR-227 just south of Crestmont Dr
SPECIFIC LOCATION: SR-227 just south of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607204
DIRECTION: SB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic
12:00 AM	16	27	29	35	36	29
1:00 AM	14	12	19	22	25	18
2:00 AM	4	12	16	8	15	11
3:00 AM	13	13	8	17	19	14
4:00 AM	23	28	31	28	37	29
5:00 AM	99	104	100	98	110	102
6:00 AM	187	199	248	184	172	198
7:00 AM	401	418	429	431	449	426
8:00 AM	417	**569**	**588**	**538**	600	**542**
9:00 AM	**540**	424	425	426	484	460
10:00 AM	409	465	423	474	480	450
11:00 AM	488	546	508	486	**605**	527
12:00 PM	556	585	548	579	635	581
1:00 PM	620	603	695	701	692	662
2:00 PM	720	750	749	770	797	757
3:00 PM	930	1039	899	1002	1106	995
4:00 PM	**1182**	1187	**1184**	**1251**	**1181**	**1197**
5:00 PM	1134	**1194**	1146	1163	1152	1158
6:00 PM	630	636	618	660	564	622
7:00 PM	300	308	343	314	321	317
8:00 PM	243	231	250	280	235	248
9:00 PM	141	135	187	244	222	186
10:00 PM	85	86	83	135	167	111
11:00 PM	56	70	56	79	93	71
Day Total	9208	9641	9582	9925	10197	9711
% Weekday Average % Week Average	94.8%	99.3%	98.7%	102.2%	105.0%	
AM Peak Volume	9:00 AM 540	8:00 AM 569	8:00 AM 588	8:00 AM 538	11:00 AM 605	8:00 AM 542
PM Peak Volume	4:00 PM 1182	5:00 PM 1194	4:00 PM 1184	4:00 PM 1251	4:00 PM 1181	4:00 PM 1197

Average Weekday Profile



Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: SR-227 just south of Crestmont Dr
SPECIFIC LOCATION: SR-227 just south of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607204
DIRECTION: SB
DATE: Jan 30 2016 - Jan 31 2016

Start Time	Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM	64	58	61	
1:00 AM	110	24	67	
2:00 AM	40	13	27	
3:00 AM	16	6	11	
4:00 AM	22	13	18	
5:00 AM	43	30	37	
6:00 AM	92	45	69	
7:00 AM	141	75	108	
8:00 AM	210	123	167	
9:00 AM	311	165	238	
10:00 AM	376	212	294	
11:00 AM	**484**	**279**	**382**	
12:00 PM	523	319	421	
1:00 PM	**551**	362	**457**	
2:00 PM	503	361	432	
3:00 PM	496	364	430	
4:00 PM	493	**374**	434	
5:00 PM	434	332	383	
6:00 PM	301	241	271	
7:00 PM	178	154	166	
8:00 PM	167	124	146	
9:00 PM	139	183	161	
10:00 PM	107	85	96	
11:00 PM	96	42	69	
Day Total	5897	3984	4945	
% Weekday Average				
% Week Average	119.3%	80.6%		
AM Peak	11:00 AM	11:00 AM	11:00 AM	
Volume	484	279	382	
PM Peak	1:00 PM	4:00 PM	1:00 PM	
Volume	551	374	457	

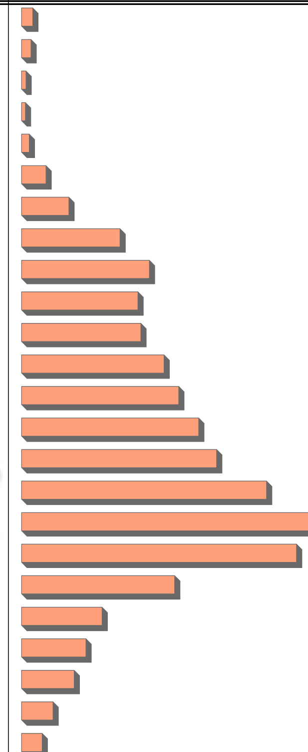
Comments:

SUMMARY - Tube Count - Volume Data (Week)

LOCATION: SR-227 just south of Crestmont Dr
SPECIFIC LOCATION: SR-227 just south of Crestmont Dr
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607204
DIRECTION: SB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	16	27	29	35	36	29	64	58	38	
1:00 AM	14	12	19	22	25	18	110	24	32	
2:00 AM	4	12	16	8	15	11	40	13	15	
3:00 AM	13	13	8	17	19	14	16	6	13	
4:00 AM	23	28	31	28	37	29	22	13	26	
5:00 AM	99	104	100	98	110	102	43	30	83	
6:00 AM	187	199	248	184	172	198	92	45	161	
7:00 AM	401	418	429	431	449	426	141	75	335	
8:00 AM	417	**569**	**588**	**538**	600	**542**	210	123	435	
9:00 AM	**540**	424	425	426	484	460	311	165	396	
10:00 AM	409	465	423	474	480	450	376	212	406	
11:00 AM	488	546	508	486	**605**	527	**484**	**279**	**485**	
12:00 PM	556	585	548	579	635	581	523	319	535	
1:00 PM	620	603	695	701	692	662	**551**	362	603	
2:00 PM	720	750	749	770	797	757	503	361	664	
3:00 PM	930	1039	899	1002	1106	995	496	364	834	
4:00 PM	**1182**	1187	**1184**	**1251**	**1181**	**1197**	493	**374**	**979**	
5:00 PM	1134	**1194**	1146	1163	1152	1158	434	332	936	
6:00 PM	630	636	618	660	564	622	301	241	521	
7:00 PM	300	308	343	314	321	317	178	154	274	
8:00 PM	243	231	250	280	235	248	167	124	219	
9:00 PM	141	135	187	244	222	186	139	183	179	
10:00 PM	85	86	83	135	167	111	107	85	107	
11:00 PM	56	70	56	79	93	71	96	42	70	
Day Total	9208	9641	9582	9925	10197	9711	5897	3984	8346	
% Weekday Average	94.8%	99.3%	98.7%	102.2%	105.0%					
% Week Average	110.3%	115.5%	114.8%	118.9%	122.2%	116.4%	70.7%	47.7%		
AM Peak	9:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	8:00 AM	11:00 AM	11:00 AM	11:00 AM	
Volume	540	569	588	538	605	542	484	279	485	
PM Peak	4:00 PM	5:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	1:00 PM	4:00 PM	4:00 PM	
Volume	1182	1194	1184	1251	1181	1197	551	374	979	



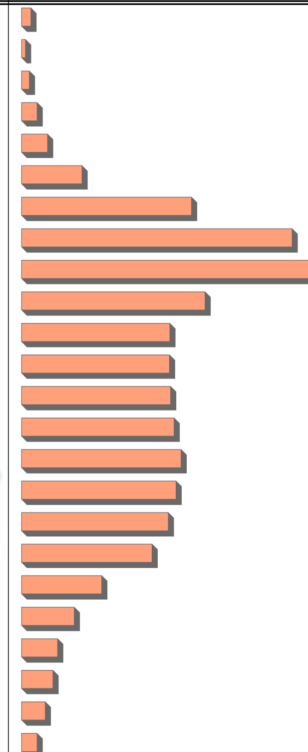
Comments:

LOCATION: SR-227 just south of Los Ranchos Rd
SPECIFIC LOCATION: SR-227 just south of Los Ranchos Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607205
DIRECTION: NB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic
12:00 AM	12	14	42	11	17	19	48	27	24
1:00 AM	8	6	12	11	10	9	20	5	10
2:00 AM	8	10	4	81	8	22	18	8	20
3:00 AM	32	28	120	35	34	50	26	3	40
4:00 AM	76	87	89	84	81	83	35	17	67
5:00 AM	196	199	199	192	177	193	81	50	156
6:00 AM	577	592	576	610	548	581	107	66	439
7:00 AM	**927**	950	932	**957**	**920**	937	157	53	699
8:00 AM	877	**1161**	**952**	913	914	**963**	258	124	**743**
9:00 AM	616	577	555	611	540	580	271	150	474
10:00 AM	417	426	445	432	442	432	310	207	383
11:00 AM	411	423	433	423	424	423	**336**	**227**	382
12:00 PM	443	**441**	395	372	432	417	**365**	247	385
1:00 PM	372	431	**443**	470	446	432	347	248	394
2:00 PM	418	422	422	448	**536**	**449**	363	**272**	**412**
3:00 PM	**444**	436	406	**480**	458	445	320	247	399
4:00 PM	377	410	406	429	448	414	337	244	379
5:00 PM	355	371	377	401	393	379	255	204	337
6:00 PM	207	214	232	242	264	232	165	126	207
7:00 PM	142	130	149	162	138	144	136	96	136
8:00 PM	83	101	78	111	103	95	87	90	93
9:00 PM	65	64	75	88	105	79	104	68	81
10:00 PM	57	47	33	47	130	63	81	35	61
11:00 PM	24	34	21	27	93	40	53	29	40
Day Total	7144	7574	7396	7637	7661	7481	4280	2843	6361
% Weekday Average	95.5%	101.2%	98.9%	102.1%	102.4%				
% Week Average	112.3%	119.1%	116.3%	120.1%	120.4%	117.6%	67.3%	44.7%	
AM Peak	7:00 AM	8:00 AM	8:00 AM	7:00 AM	7:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM
Volume	927	1161	952	957	920	963	336	227	743
PM Peak	3:00 PM	12:00 PM	1:00 PM	3:00 PM	2:00 PM	2:00 PM	12:00 PM	2:00 PM	2:00 PM
Volume	444	441	443	480	536	449	365	272	412

Average Week Profile



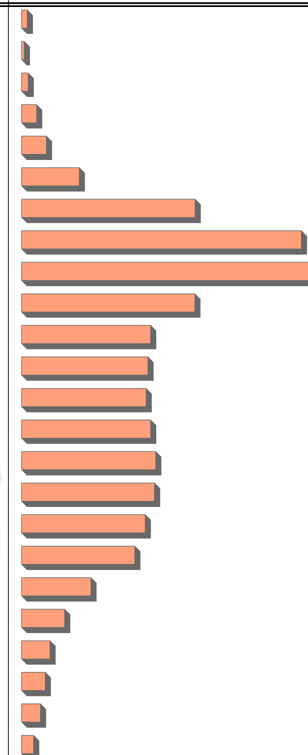
Comments:

LOCATION: SR-227 just south of Los Ranchos Rd
SPECIFIC LOCATION: SR-227 just south of Los Ranchos Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607205
DIRECTION: NB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic
12:00 AM	12	14	42	11	17	19
1:00 AM	8	6	12	11	10	9
2:00 AM	8	10	4	81	8	22
3:00 AM	32	28	120	35	34	50
4:00 AM	76	87	89	84	81	83
5:00 AM	196	199	199	192	177	193
6:00 AM	577	592	576	610	548	581
7:00 AM	**927**	950	932	**957**	**920**	937
8:00 AM	877	**1161**	**952**	913	914	**963**
9:00 AM	616	577	555	611	540	580
10:00 AM	417	426	445	432	442	432
11:00 AM	411	423	433	423	424	423
12:00 PM	443	**441**	395	372	432	417
1:00 PM	372	431	**443**	470	446	432
2:00 PM	418	422	422	448	**536**	**449**
3:00 PM	**444**	436	406	**480**	458	445
4:00 PM	377	410	406	429	448	414
5:00 PM	355	371	377	401	393	379
6:00 PM	207	214	232	242	264	232
7:00 PM	142	130	149	162	138	144
8:00 PM	83	101	78	111	103	95
9:00 PM	65	64	75	88	105	79
10:00 PM	57	47	33	47	130	63
11:00 PM	24	34	21	27	93	40
Day Total	7144	7574	7396	7637	7661	7481
% Weekday Average	95.5%	101.2%	98.9%	102.1%	102.4%	
% Week Average						
AM Peak	7:00 AM	8:00 AM	8:00 AM	7:00 AM	7:00 AM	8:00 AM
Volume	927	1161	952	957	920	963
PM Peak	3:00 PM	12:00 PM	1:00 PM	3:00 PM	2:00 PM	2:00 PM
Volume	444	441	443	480	536	449

Average Weekday Profile

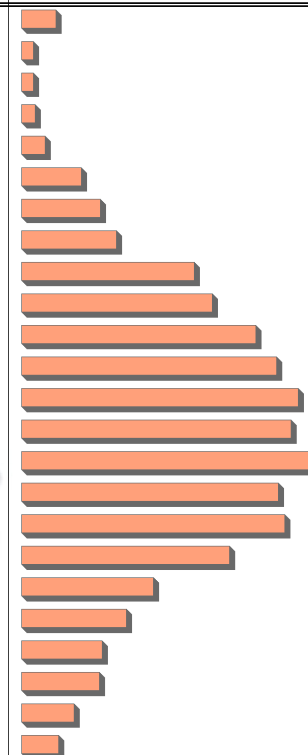


Comments:

LOCATION: SR-227 just south of Los Ranchos Rd
SPECIFIC LOCATION: SR-227 just south of Los Ranchos Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607205
DIRECTION: NB
DATE: Jan 30 2016 - Jan 31 2016

Start Time	Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM	48	27	38	
1:00 AM	20	5	13	
2:00 AM	18	8	13	
3:00 AM	26	3	15	
4:00 AM	35	17	26	
5:00 AM	81	50	66	
6:00 AM	107	66	87	
7:00 AM	157	53	105	
8:00 AM	258	124	191	
9:00 AM	271	150	211	
10:00 AM	310	207	259	
11:00 AM	**336**	**227**	**282**	
12:00 PM	**365**	247	306	
1:00 PM	347	248	298	
2:00 PM	363	**272**	**318**	
3:00 PM	320	247	284	
4:00 PM	337	244	291	
5:00 PM	255	204	230	
6:00 PM	165	126	146	
7:00 PM	136	96	116	
8:00 PM	87	90	89	
9:00 PM	104	68	86	
10:00 PM	81	35	58	
11:00 PM	53	29	41	
Day Total	4280	2843	3569	
% Weekday Average				
% Week Average	119.9%	79.7%		
AM Peak Volume	11:00 AM 336	11:00 AM 227	11:00 AM 282	
PM Peak Volume	12:00 PM 365	2:00 PM 272	2:00 PM 318	

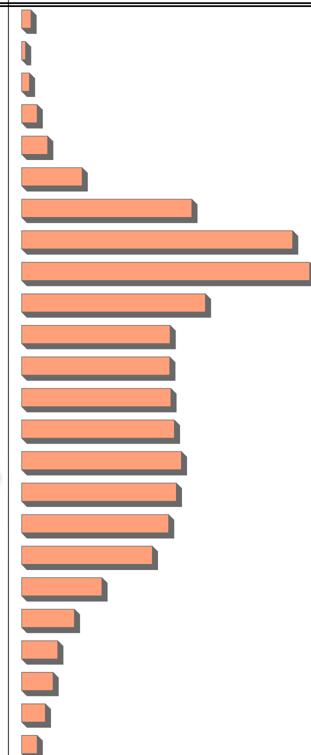


Comments:

LOCATION: SR-227 just south of Los Ranchos Rd
SPECIFIC LOCATION: SR-227 just south of Los Ranchos Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607205
DIRECTION: NB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	12	14	42	11	17	19	48	27	24	
1:00 AM	8	6	12	11	10	9	20	5	10	
2:00 AM	8	10	4	81	8	22	18	8	20	
3:00 AM	32	28	120	35	34	50	26	3	40	
4:00 AM	76	87	89	84	81	83	35	17	67	
5:00 AM	196	199	199	192	177	193	81	50	156	
6:00 AM	577	592	576	610	548	581	107	66	439	
7:00 AM	**927**	950	932	**957**	**920**	937	157	53	699	
8:00 AM	877	**1161**	**952**	913	914	**963**	258	124	**743**	
9:00 AM	616	577	555	611	540	580	271	150	474	
10:00 AM	417	426	445	432	442	432	310	207	383	
11:00 AM	411	423	433	423	424	423	**336**	**227**	382	
12:00 PM	443	**441**	395	372	432	417	**365**	247	385	
1:00 PM	372	431	**443**	470	446	432	347	248	394	
2:00 PM	418	422	422	448	**536**	**449**	363	**272**	**412**	
3:00 PM	**444**	436	406	**480**	458	445	320	247	399	
4:00 PM	377	410	406	429	448	414	337	244	379	
5:00 PM	355	371	377	401	393	379	255	204	337	
6:00 PM	207	214	232	242	264	232	165	126	207	
7:00 PM	142	130	149	162	138	144	136	96	136	
8:00 PM	83	101	78	111	103	95	87	90	93	
9:00 PM	65	64	75	88	105	79	104	68	81	
10:00 PM	57	47	33	47	130	63	81	35	61	
11:00 PM	24	34	21	27	93	40	53	29	40	
Day Total	7144	7574	7396	7637	7661	7481	4280	2843	6361	
% Weekday Average	95.5%	101.2%	98.9%	102.1%	102.4%					
% Week Average	112.3%	119.1%	116.3%	120.1%	120.4%	117.6%	67.3%	44.7%		
AM Peak	7:00 AM	8:00 AM	8:00 AM	7:00 AM	7:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM	
Volume	927	1161	952	957	920	963	336	227	743	
PM Peak	3:00 PM	12:00 PM	1:00 PM	3:00 PM	2:00 PM	2:00 PM	12:00 PM	2:00 PM	2:00 PM	
Volume	444	441	443	480	536	449	365	272	412	



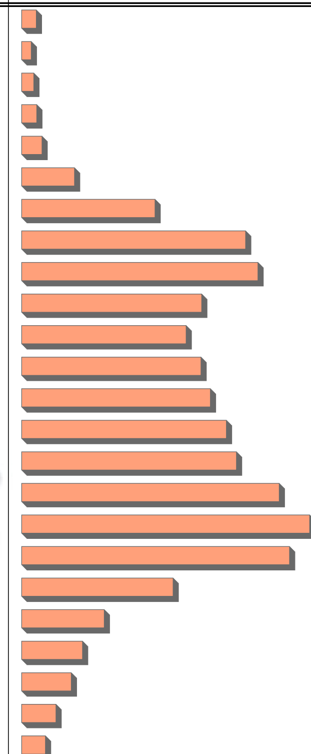
Comments:

LOCATION: SR-227 just south of Los Ranchos Rd
SPECIFIC LOCATION: SR-227 just south of Los Ranchos Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607205
DIRECTION: NB/SB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic
12:00 AM	27	39	111	44	49	54	107	69	64
1:00 AM	22	20	33	37	35	29	116	31	42
2:00 AM	12	22	22	209	21	57	66	20	53
3:00 AM	47	40	212	51	54	81	43	14	66
4:00 AM	100	110	110	103	107	106	54	42	89
5:00 AM	283	307	282	281	269	284	122	73	231
6:00 AM	742	780	792	765	709	758	189	107	583
7:00 AM	**1273**	1322	1283	**1316**	**1278**	1294	270	113	979
8:00 AM	1207	**1544**	**1332**	1229	1275	**1317**	425	222	**1033**
9:00 AM	956	931	929	972	947	947	506	268	787
10:00 AM	756	826	766	849	840	807	631	367	719
11:00 AM	847	877	852	847	913	867	**731**	**422**	784
12:00 PM	916	908	853	864	958	900	783	491	825
1:00 PM	865	938	1035	1058	1042	988	790	539	895
2:00 PM	982	1006	984	1051	1194	1043	**801**	**555**	939
3:00 PM	1277	1375	1224	1332	1410	1324	726	536	1126
4:00 PM	**1431**	**1483**	**1505**	**1572**	**1534**	**1505**	764	523	**1259**
5:00 PM	1377	1437	1392	1472	1443	1424	589	486	1171
6:00 PM	767	763	767	839	784	784	394	317	662
7:00 PM	390	387	419	426	415	407	267	223	361
8:00 PM	273	281	279	332	289	291	217	191	266
9:00 PM	193	174	217	287	277	230	216	157	217
10:00 PM	148	117	114	154	253	157	161	101	150
11:00 PM	75	112	73	100	168	106	133	64	104
Day Total	14966	15799	15586	16190	16264	15760	9101	5931	13405
% Weekday Average	95.0%	100.2%	98.9%	102.7%	103.2%				
% Week Average	111.6%	117.9%	116.3%	120.8%	121.3%	117.6%	67.9%	44.2%	
AM Peak	7:00 AM	8:00 AM	8:00 AM	7:00 AM	7:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM
Volume	1273	1544	1332	1316	1278	1317	731	422	1033
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	2:00 PM	2:00 PM	4:00 PM
Volume	1431	1483	1505	1572	1534	1505	801	555	1259

Average Week Profile



Comments:

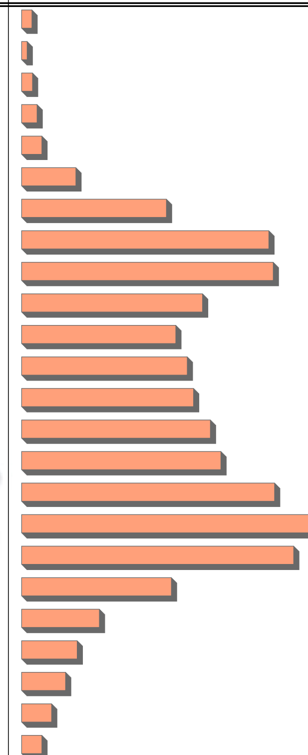
SUMMARY - Tube Count - Volume Data (Weekday)

LOCATION: SR-227 just south of Los Ranchos Rd
SPECIFIC LOCATION: SR-227 just south of Los Ranchos Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607205
DIRECTION: NB/SB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic
12:00 AM	27	39	111	44	49	54
1:00 AM	22	20	33	37	35	29
2:00 AM	12	22	22	209	21	57
3:00 AM	47	40	212	51	54	81
4:00 AM	100	110	110	103	107	106
5:00 AM	283	307	282	281	269	284
6:00 AM	742	780	792	765	709	758
7:00 AM	**1273**	1322	1283	**1316**	**1278**	1294
8:00 AM	1207	**1544**	**1332**	1229	1275	**1317**
9:00 AM	956	931	929	972	947	947
10:00 AM	756	826	766	849	840	807
11:00 AM	847	877	852	847	913	867
12:00 PM	916	908	853	864	958	900
1:00 PM	865	938	1035	1058	1042	988
2:00 PM	982	1006	984	1051	1194	1043
3:00 PM	1277	1375	1224	1332	1410	1324
4:00 PM	**1431**	**1483**	**1505**	**1572**	**1534**	**1505**
5:00 PM	1377	1437	1392	1472	1443	1424
6:00 PM	767	763	767	839	784	784
7:00 PM	390	387	419	426	415	407
8:00 PM	273	281	279	332	289	291
9:00 PM	193	174	217	287	277	230
10:00 PM	148	117	114	154	253	157
11:00 PM	75	112	73	100	168	106
Day Total	14966	15799	15586	16190	16264	15760
% Weekday Average % Week Average	95.0%	100.2%	98.9%	102.7%	103.2%	
AM Peak Volume	7:00 AM 1273	8:00 AM 1544	8:00 AM 1332	7:00 AM 1316	7:00 AM 1278	8:00 AM 1317
PM Peak Volume	4:00 PM 1431	4:00 PM 1483	4:00 PM 1505	4:00 PM 1572	4:00 PM 1534	4:00 PM 1505

Average Weekday Profile



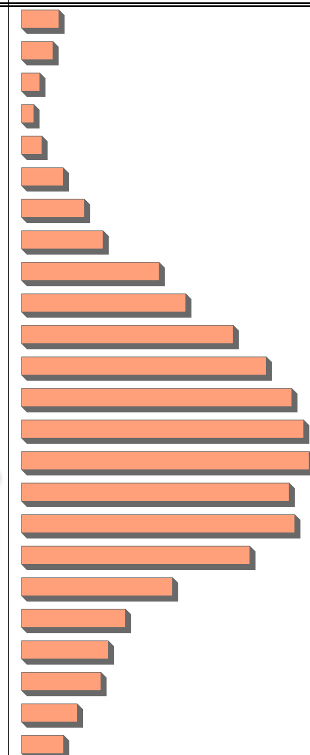
Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: SR-227 just south of Los Ranchos Rd
SPECIFIC LOCATION: SR-227 just south of Los Ranchos Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607205
DIRECTION: NB/SB
DATE: Jan 30 2016 - Jan 31 2016

Start Time	Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM	107	69	88	
1:00 AM	116	31	74	
2:00 AM	66	20	43	
3:00 AM	43	14	29	
4:00 AM	54	42	48	
5:00 AM	122	73	98	
6:00 AM	189	107	148	
7:00 AM	270	113	192	
8:00 AM	425	222	324	
9:00 AM	506	268	387	
10:00 AM	631	367	499	
11:00 AM	**731**	**422**	**577**	
12:00 PM	783	491	637	
1:00 PM	790	539	665	
2:00 PM	**801**	**555**	**678**	
3:00 PM	726	536	631	
4:00 PM	764	523	644	
5:00 PM	589	486	538	
6:00 PM	394	317	356	
7:00 PM	267	223	245	
8:00 PM	217	191	204	
9:00 PM	216	157	187	
10:00 PM	161	101	131	
11:00 PM	133	64	99	
Day Total	9101	5931	7522	
% Weekday Average				
% Week Average	121.0%	78.8%		
AM Peak Volume	11:00 AM 731	11:00 AM 422	11:00 AM 577	
PM Peak Volume	2:00 PM 801	2:00 PM 555	2:00 PM 678	



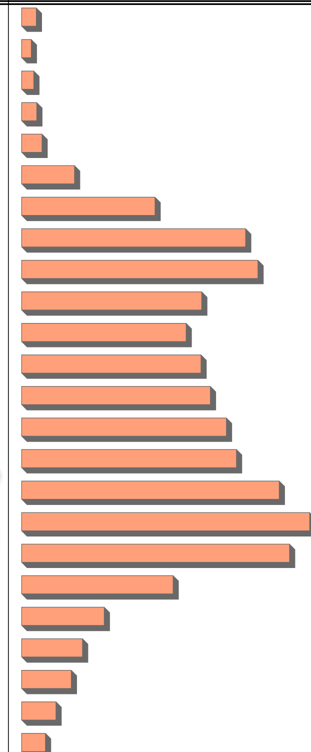
Comments:

SUMMARY - Tube Count - Volume Data (Week)

LOCATION: SR-227 just south of Los Ranchos Rd
SPECIFIC LOCATION: SR-227 just south of Los Ranchos Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607205
DIRECTION: NB/SB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	27	39	111	44	49	54	107	69	64	
1:00 AM	22	20	33	37	35	29	116	31	42	
2:00 AM	12	22	22	209	21	57	66	20	53	
3:00 AM	47	40	212	51	54	81	43	14	66	
4:00 AM	100	110	110	103	107	106	54	42	89	
5:00 AM	283	307	282	281	269	284	122	73	231	
6:00 AM	742	780	792	765	709	758	189	107	583	
7:00 AM	**1273**	1322	1283	**1316**	**1278**	1294	270	113	979	
8:00 AM	1207	**1544**	**1332**	1229	1275	**1317**	425	222	**1033**	
9:00 AM	956	931	929	972	947	947	506	268	787	
10:00 AM	756	826	766	849	840	807	631	367	719	
11:00 AM	847	877	852	847	913	867	**731**	**422**	784	
12:00 PM	916	908	853	864	958	900	783	491	825	
1:00 PM	865	938	1035	1058	1042	988	790	539	895	
2:00 PM	982	1006	984	1051	1194	1043	**801**	**555**	939	
3:00 PM	1277	1375	1224	1332	1410	1324	726	536	1126	
4:00 PM	**1431**	**1483**	**1505**	**1572**	**1534**	**1505**	764	523	**1259**	
5:00 PM	1377	1437	1392	1472	1443	1424	589	486	1171	
6:00 PM	767	763	767	839	784	784	394	317	662	
7:00 PM	390	387	419	426	415	407	267	223	361	
8:00 PM	273	281	279	332	289	291	217	191	266	
9:00 PM	193	174	217	287	277	230	216	157	217	
10:00 PM	148	117	114	154	253	157	161	101	150	
11:00 PM	75	112	73	100	168	106	133	64	104	
Day Total	14966	15799	15586	16190	16264	15760	9101	5931	13405	
% Weekday Average	95.0%	100.2%	98.9%	102.7%	103.2%					
% Week Average	111.6%	117.9%	116.3%	120.8%	121.3%	117.6%	67.9%	44.2%		
AM Peak	7:00 AM	8:00 AM	8:00 AM	7:00 AM	7:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM	
Volume	1273	1544	1332	1316	1278	1317	731	422	1033	
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	2:00 PM	2:00 PM	4:00 PM	
Volume	1431	1483	1505	1572	1534	1505	801	555	1259	

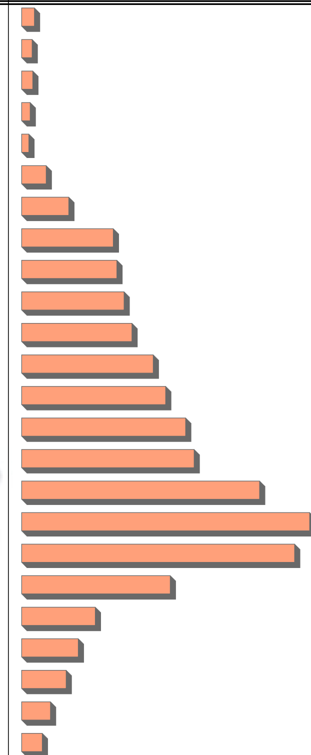


Comments:

LOCATION: SR-227 just south of Los Ranchos Rd
SPECIFIC LOCATION: SR-227 just south of Los Ranchos Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607205
DIRECTION: SB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	15	25	69	33	32	35	59	42	39	
1:00 AM	14	14	21	26	25	20	96	26	32	
2:00 AM	4	12	18	128	13	35	48	12	34	
3:00 AM	15	12	92	16	20	31	17	11	26	
4:00 AM	24	23	21	19	26	23	19	25	22	
5:00 AM	87	108	83	89	92	92	41	23	75	
6:00 AM	165	188	216	155	161	177	82	41	144	
7:00 AM	346	372	351	359	358	357	113	60	280	
8:00 AM	330	383	380	316	361	354	167	98	291	
9:00 AM	340	354	374	361	407	367	235	118	313	
10:00 AM	339	400	321	417	398	375	321	160	337	
11:00 AM	**436**	**454**	**419**	**424**	**489**	**444**	**395**	**195**	**402**	
12:00 PM	473	467	458	492	526	483	418	244	440	
1:00 PM	493	507	592	588	596	555	**443**	**291**	501	
2:00 PM	564	584	562	603	658	594	438	283	527	
3:00 PM	833	939	818	852	952	879	406	289	727	
4:00 PM	**1054**	**1073**	**1099**	**1143**	**1086**	**1091**	427	279	**880**	
5:00 PM	1022	1066	1015	1071	1050	1045	334	282	834	
6:00 PM	560	549	535	597	520	552	229	191	454	
7:00 PM	248	257	270	264	277	263	131	127	225	
8:00 PM	190	180	201	221	186	196	130	101	173	
9:00 PM	128	110	142	199	172	150	112	89	136	
10:00 PM	91	70	81	107	123	94	80	66	88	
11:00 PM	51	78	52	73	75	66	80	35	63	
Day Total	7822	8225	8190	8553	8603	8278	4821	3088	7043	
% Weekday Average	94.5%	99.4%	98.9%	103.3%	103.9%					
% Week Average	111.1%	116.8%	116.3%	121.4%	122.1%	117.5%	68.5%	43.8%		
AM Peak	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	
Volume	436	454	419	424	489	444	395	195	402	
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	1:00 PM	1:00 PM	4:00 PM	
Volume	1054	1073	1099	1143	1086	1091	443	291	880	



Comments:

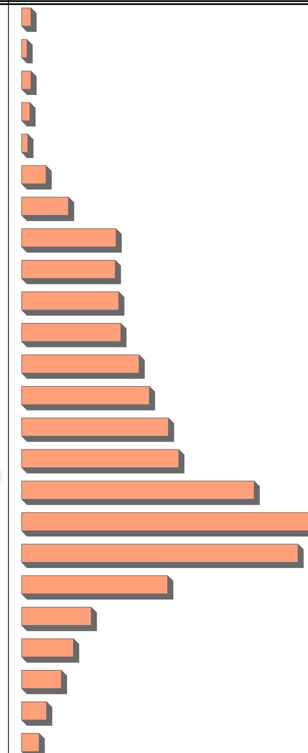
SUMMARY - Tube Count - Volume Data (Weekday)

LOCATION: SR-227 just south of Los Ranchos Rd
SPECIFIC LOCATION: SR-227 just south of Los Ranchos Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607205
DIRECTION: SB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic
12:00 AM	15	25	69	33	32	35
1:00 AM	14	14	21	26	25	20
2:00 AM	4	12	18	128	13	35
3:00 AM	15	12	92	16	20	31
4:00 AM	24	23	21	19	26	23
5:00 AM	87	108	83	89	92	92
6:00 AM	165	188	216	155	161	177
7:00 AM	346	372	351	359	358	357
8:00 AM	330	383	380	316	361	354
9:00 AM	340	354	374	361	407	367
10:00 AM	339	400	321	417	398	375
11:00 AM	**436**	**454**	**419**	**424**	**489**	**444**
12:00 PM	473	467	458	492	526	483
1:00 PM	493	507	592	588	596	555
2:00 PM	564	584	562	603	658	594
3:00 PM	833	939	818	852	952	879
4:00 PM	**1054**	**1073**	**1099**	**1143**	**1086**	**1091**
5:00 PM	1022	1066	1015	1071	1050	1045
6:00 PM	560	549	535	597	520	552
7:00 PM	248	257	270	264	277	263
8:00 PM	190	180	201	221	186	196
9:00 PM	128	110	142	199	172	150
10:00 PM	91	70	81	107	123	94
11:00 PM	51	78	52	73	75	66
Day Total	7822	8225	8190	8553	8603	8278
% Weekday Average	94.5%	99.4%	98.9%	103.3%	103.9%	
% Week Average						
AM Peak	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM
Volume	436	454	419	424	489	444
PM Peak	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM
Volume	1054	1073	1099	1143	1086	1091

Average Weekday Profile



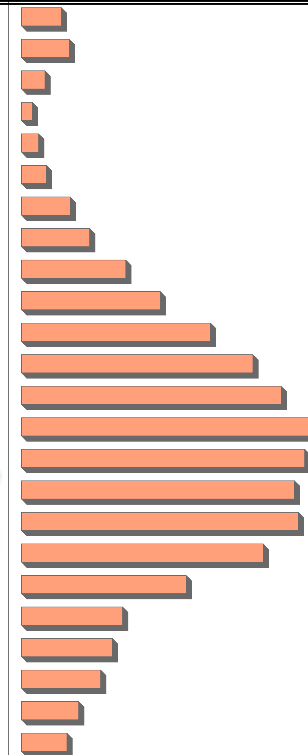
Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: SR-227 just south of Los Ranchos Rd
SPECIFIC LOCATION: SR-227 just south of Los Ranchos Rd
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607205
DIRECTION: SB
DATE: Jan 30 2016 - Jan 31 2016

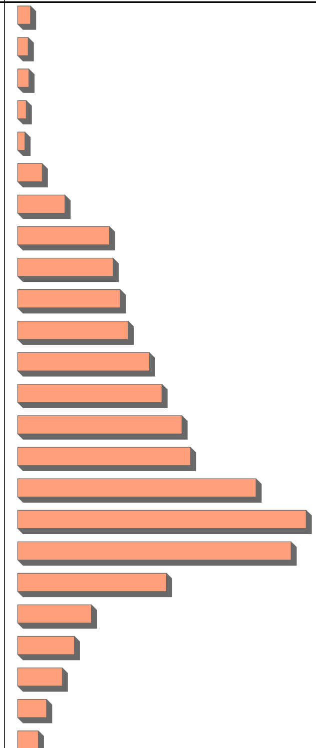
Start Time			Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM			59	42	51	
1:00 AM			96	26	61	
2:00 AM			48	12	30	
3:00 AM			17	11	14	
4:00 AM			19	25	22	
5:00 AM			41	23	32	
6:00 AM			82	41	62	
7:00 AM			113	60	87	
8:00 AM			167	98	133	
9:00 AM			235	118	177	
10:00 AM			321	160	241	
11:00 AM			**395**	**195**	**295**	
12:00 PM			418	244	331	
1:00 PM			**443**	**291**	**367**	
2:00 PM			438	283	361	
3:00 PM			406	289	348	
4:00 PM			427	279	353	
5:00 PM			334	282	308	
6:00 PM			229	191	210	
7:00 PM			131	127	129	
8:00 PM			130	101	116	
9:00 PM			112	89	101	
10:00 PM			80	66	73	
11:00 PM			80	35	58	
Day Total			4821	3088	3960	
% Weekday Average						
% Week Average			121.7%	78.0%		
AM Peak Volume			11:00 AM 395	11:00 AM 195	11:00 AM 295	
PM Peak Volume			1:00 PM 443	1:00 PM 291	1:00 PM 367	



Comments:

LOCATION: SR-227 just south of Los Ranchos Rd
SPECIFIC LOCATION: SR-227 just south of Los Ranchos Rd
CITY/STATE: San Luis Obispo, CA
QC JOB #: 13607205
DIRECTION: SB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	15	25	69	33	32	35	59	42	39	
1:00 AM	14	14	21	26	25	20	96	26	32	
2:00 AM	4	12	18	128	13	35	48	12	34	
3:00 AM	15	12	92	16	20	31	17	11	26	
4:00 AM	24	23	21	19	26	23	19	25	22	
5:00 AM	87	108	83	89	92	92	41	23	75	
6:00 AM	165	188	216	155	161	177	82	41	144	
7:00 AM	346	372	351	359	358	357	113	60	280	
8:00 AM	330	383	380	316	361	354	167	98	291	
9:00 AM	340	354	374	361	407	367	235	118	313	
10:00 AM	339	400	321	417	398	375	321	160	337	
11:00 AM	**436**	**454**	**419**	**424**	**489**	**444**	**395**	**195**	**402**	
12:00 PM	473	467	458	492	526	483	418	244	440	
1:00 PM	493	507	592	588	596	555	**443**	**291**	501	
2:00 PM	564	584	562	603	658	594	438	283	527	
3:00 PM	833	939	818	852	952	879	406	289	727	
4:00 PM	**1054**	**1073**	**1099**	**1143**	**1086**	**1091**	427	279	**880**	
5:00 PM	1022	1066	1015	1071	1050	1045	334	282	834	
6:00 PM	560	549	535	597	520	552	229	191	454	
7:00 PM	248	257	270	264	277	263	131	127	225	
8:00 PM	190	180	201	221	186	196	130	101	173	
9:00 PM	128	110	142	199	172	150	112	89	136	
10:00 PM	91	70	81	107	123	94	80	66	88	
11:00 PM	51	78	52	73	75	66	80	35	63	
Day Total	7822	8225	8190	8553	8603	8278	4821	3088	7043	
% Weekday Average	94.5%	99.4%	98.9%	103.3%	103.9%					
% Week Average	111.1%	116.8%	116.3%	121.4%	122.1%	117.5%	68.5%	43.8%		
AM Peak Volume	11:00 AM 436	11:00 AM 454	11:00 AM 419	11:00 AM 424	11:00 AM 489	11:00 AM 444	11:00 AM 395	11:00 AM 195	11:00 AM 402	
PM Peak Volume	4:00 PM 1054	4:00 PM 1073	4:00 PM 1099	4:00 PM 1143	4:00 PM 1086	4:00 PM 1091	1:00 PM 443	1:00 PM 291	4:00 PM 880	

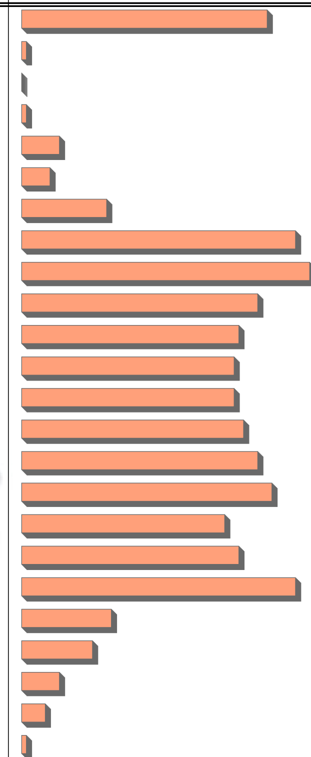


Comments:

LOCATION: Crestmont Dr just west of SR-227
SPECIFIC LOCATION: Crestmont Dr just west of SR-227
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607206
DIRECTION: EB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	1	1	**358**	0	1	72	3	3	52	
1:00 AM	2	0	0	0	0	0	2	1	1	
2:00 AM	1	0	0	0	0	0	0	0	0	
3:00 AM	1	0	0	1	2	1	0	1	1	
4:00 AM	1	1	47	1	2	10	3	0	8	
5:00 AM	5	8	8	9	6	7	3	2	6	
6:00 AM	24	22	21	18	27	22	10	6	18	
7:00 AM	52	**79**	78	76	73	72	31	17	58	
8:00 AM	63	74	75	**80**	**74**	**73**	38	25	**61**	
9:00 AM	**71**	54	60	49	50	57	33	30	50	
10:00 AM	47	30	53	71	51	50	43	28	46	
11:00 AM	41	45	36	45	60	45	**53**	**36**	45	
12:00 PM	36	33	62	50	**61**	48	**50**	20	45	
1:00 PM	42	48	51	53	47	48	47	**39**	47	
2:00 PM	47	48	61	55	52	53	50	37	50	
3:00 PM	46	57	**65**	75	49	58	43	33	53	
4:00 PM	39	40	38	**76**	53	49	32	21	43	
5:00 PM	**48**	59	46	55	49	51	34	32	46	
6:00 PM	29	**206**	25	43	40	**69**	44	18	**58**	
7:00 PM	11	20	27	12	19	18	27	19	19	
8:00 PM	10	15	12	16	21	15	15	13	15	
9:00 PM	7	2	6	8	13	7	10	7	8	
10:00 PM	3	6	1	4	5	4	11	3	5	
11:00 PM	2	1	1	0	2	1	4	0	1	
Day Total	629	849	1131	797	757	830	586	391	736	
% Weekday Average	75.8%	102.3%	136.3%	96.0%	91.2%					
% Week Average	85.5%	115.4%	153.7%	108.3%	102.9%	112.8%	79.6%	53.1%		
AM Peak	9:00 AM	7:00 AM	12:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM	
Volume	71	79	358	80	74	73	53	36	61	
PM Peak	5:00 PM	6:00 PM	3:00 PM	4:00 PM	12:00 PM	6:00 PM	12:00 PM	1:00 PM	6:00 PM	
Volume	48	206	65	76	61	69	50	39	58	



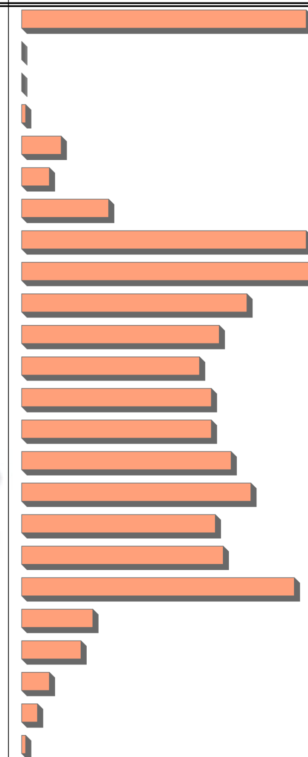
Comments:

SUMMARY - Tube Count - Volume Data (Weekday)

LOCATION: Crestmont Dr just west of SR-227
SPECIFIC LOCATION: Crestmont Dr just west of SR-227
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607206
DIRECTION: EB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic			Average Weekday Profile
12:00 AM	1	1	**358**	0	1	72			
1:00 AM	2	0	0	0	0	0			
2:00 AM	1	0	0	0	0	0			
3:00 AM	1	0	0	1	2	1			
4:00 AM	1	1	47	1	2	10			
5:00 AM	5	8	8	9	6	7			
6:00 AM	24	22	21	18	27	22			
7:00 AM	52	**79**	78	76	73	72			
8:00 AM	63	74	75	**80**	**74**	**73**			
9:00 AM	**71**	54	60	49	50	57			
10:00 AM	47	30	53	71	51	50			
11:00 AM	41	45	36	45	60	45			
12:00 PM	36	33	62	50	**61**	48			
1:00 PM	42	48	51	53	47	48			
2:00 PM	47	48	61	55	52	53			
3:00 PM	46	57	**65**	75	49	58			
4:00 PM	39	40	38	**76**	53	49			
5:00 PM	**48**	59	46	55	49	51			
6:00 PM	29	**206**	25	43	40	**69**			
7:00 PM	11	20	27	12	19	18			
8:00 PM	10	15	12	16	21	15			
9:00 PM	7	2	6	8	13	7			
10:00 PM	3	6	1	4	5	4			
11:00 PM	2	1	1	0	2	1			
Day Total	629	849	1131	797	757	830			
% Weekday Average	75.8%	102.3%	136.3%	96.0%	91.2%				
% Week Average									
AM Peak	9:00 AM	7:00 AM	12:00 AM	8:00 AM	8:00 AM	8:00 AM			
Volume	71	79	358	80	74	73			
PM Peak	5:00 PM	6:00 PM	3:00 PM	4:00 PM	12:00 PM	6:00 PM			
Volume	48	206	65	76	61	69			



Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: Crestmont Dr just west of SR-227
SPECIFIC LOCATION: Crestmont Dr just west of SR-227
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607206
DIRECTION: EB
DATE: Jan 30 2016 - Jan 31 2016

Start Time			Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM			3	3	3	
1:00 AM			2	1	2	
2:00 AM			0	0	0	
3:00 AM			0	1	1	
4:00 AM			3	0	2	
5:00 AM			3	2	3	
6:00 AM			10	6	8	
7:00 AM			31	17	24	
8:00 AM			38	25	32	
9:00 AM			33	30	32	
10:00 AM			43	28	36	
11:00 AM			**53**	**36**	**45**	
12:00 PM			**50**	20	35	
1:00 PM			47	**39**	43	
2:00 PM			50	37	**44**	
3:00 PM			43	33	38	
4:00 PM			32	21	27	
5:00 PM			34	32	33	
6:00 PM			44	18	31	
7:00 PM			27	19	23	
8:00 PM			15	13	14	
9:00 PM			10	7	9	
10:00 PM			11	3	7	
11:00 PM			4	0	2	
Day Total			586	391	494	
% Weekday Average						
% Week Average			118.6%	79.1%		
AM Peak Volume			11:00 AM 53	11:00 AM 36	11:00 AM 45	
PM Peak Volume			12:00 PM 50	1:00 PM 39	2:00 PM 44	

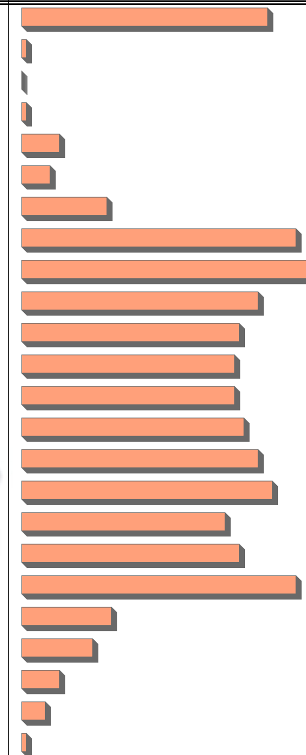
Comments:

SUMMARY - Tube Count - Volume Data (Week)

LOCATION: Crestmont Dr just west of SR-227
SPECIFIC LOCATION: Crestmont Dr just west of SR-227
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607206
DIRECTION: EB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	1	1	**358**	0	1	72	3	3	52	
1:00 AM	2	0	0	0	0	0	2	1	1	
2:00 AM	1	0	0	0	0	0	0	0	0	
3:00 AM	1	0	0	1	2	1	0	1	1	
4:00 AM	1	1	47	1	2	10	3	0	8	
5:00 AM	5	8	8	9	6	7	3	2	6	
6:00 AM	24	22	21	18	27	22	10	6	18	
7:00 AM	52	**79**	78	76	73	72	31	17	58	
8:00 AM	63	74	75	**80**	**74**	**73**	38	25	**61**	
9:00 AM	**71**	54	60	49	50	57	33	30	50	
10:00 AM	47	30	53	71	51	50	43	28	46	
11:00 AM	41	45	36	45	60	45	**53**	**36**	45	
12:00 PM	36	33	62	50	**61**	48	**50**	20	45	
1:00 PM	42	48	51	53	47	48	47	**39**	47	
2:00 PM	47	48	61	55	52	53	50	37	50	
3:00 PM	46	57	**65**	75	49	58	43	33	53	
4:00 PM	39	40	38	**76**	53	49	32	21	43	
5:00 PM	**48**	59	46	55	49	51	34	32	46	
6:00 PM	29	**206**	25	43	40	**69**	44	18	**58**	
7:00 PM	11	20	27	12	19	18	27	19	19	
8:00 PM	10	15	12	16	21	15	15	13	15	
9:00 PM	7	2	6	8	13	7	10	7	8	
10:00 PM	3	6	1	4	5	4	11	3	5	
11:00 PM	2	1	1	0	2	1	4	0	1	
Day Total	629	849	1131	797	757	830	586	391	736	
% Weekday Average	75.8%	102.3%	136.3%	96.0%	91.2%					
% Week Average	85.5%	115.4%	153.7%	108.3%	102.9%	112.8%	79.6%	53.1%		
AM Peak	9:00 AM	7:00 AM	12:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	8:00 AM	
Volume	71	79	358	80	74	73	53	36	61	
PM Peak	5:00 PM	6:00 PM	3:00 PM	4:00 PM	12:00 PM	6:00 PM	12:00 PM	1:00 PM	6:00 PM	
Volume	48	206	65	76	61	69	50	39	58	

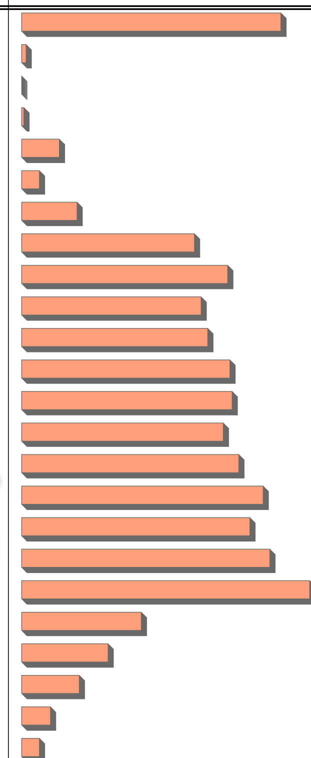


Comments:

LOCATION: Crestmont Dr just west of SR-227
SPECIFIC LOCATION: Crestmont Dr just west of SR-227
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607206
DIRECTION: EB/WB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	5	4	**793**	2	3	**161**	6	6	**117**	
1:00 AM	4	0	0	1	0	1	4	5	2	
2:00 AM	1	0	0	0	0	0	1	0	0	
3:00 AM	1	0	0	1	2	1	3	2	1	
4:00 AM	1	1	109	2	3	23	4	1	17	
5:00 AM	7	9	10	13	9	10	6	3	8	
6:00 AM	30	30	31	27	36	31	15	9	25	
7:00 AM	71	98	106	109	105	98	39	21	78	
8:00 AM	94	**112**	117	**126**	117	113	53	30	93	
9:00 AM	**108**	87	94	90	83	92	58	49	81	
10:00 AM	89	61	97	114	94	91	77	55	84	
11:00 AM	89	89	89	110	**120**	99	**97**	**64**	94	
12:00 PM	86	83	**132**	115	107	105	99	45	95	
1:00 PM	77	91	108	100	101	95	98	61	91	
2:00 PM	78	106	111	109	102	101	**104**	**79**	98	
3:00 PM	104	122	132	141	106	121	93	67	109	
4:00 PM	96	102	98	**163**	**130**	118	74	57	103	
5:00 PM	**117**	131	115	143	128	127	79	71	112	
6:00 PM	87	**414**	77	90	90	**152**	91	62	**130**	
7:00 PM	40	78	68	53	41	56	63	34	54	
8:00 PM	29	42	40	43	57	42	32	32	39	
9:00 PM	25	10	23	30	45	27	28	19	26	
10:00 PM	8	12	8	12	20	12	22	8	13	
11:00 PM	5	7	5	8	7	6	23	2	8	
Day Total	1252	1689	2363	1602	1506	1682	1169	782	1478	
% Weekday Average	74.4%	100.4%	140.5%	95.2%	89.5%					
% Week Average	84.7%	114.3%	159.9%	108.4%	101.9%	113.8%	79.1%	52.9%		
AM Peak	9:00 AM	8:00 AM	12:00 AM	8:00 AM	11:00 AM	12:00 AM	11:00 AM	11:00 AM	12:00 AM	
Volume	108	112	793	126	120	161	97	64	117	
PM Peak	5:00 PM	6:00 PM	12:00 PM	4:00 PM	4:00 PM	6:00 PM	2:00 PM	2:00 PM	6:00 PM	
Volume	117	414	132	163	130	152	104	79	130	



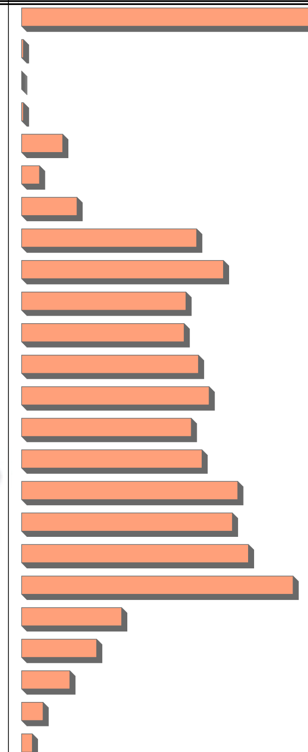
Comments:

LOCATION: Crestmont Dr just west of SR-227
SPECIFIC LOCATION: Crestmont Dr just west of SR-227
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607206
DIRECTION: EB/WB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic
12:00 AM	5	4	**793**	2	3	**161**
1:00 AM	4	0	0	1	0	1
2:00 AM	1	0	0	0	0	0
3:00 AM	1	0	0	1	2	1
4:00 AM	1	1	109	2	3	23
5:00 AM	7	9	10	13	9	10
6:00 AM	30	30	31	27	36	31
7:00 AM	71	98	106	109	105	98
8:00 AM	94	**112**	117	**126**	117	113
9:00 AM	**108**	87	94	90	83	92
10:00 AM	89	61	97	114	94	91
11:00 AM	89	89	89	110	**120**	99
12:00 PM	86	83	**132**	115	107	105
1:00 PM	77	91	108	100	101	95
2:00 PM	78	106	111	109	102	101
3:00 PM	104	122	132	141	106	121
4:00 PM	96	102	98	**163**	**130**	118
5:00 PM	**117**	131	115	143	128	127
6:00 PM	87	**414**	77	90	90	**152**
7:00 PM	40	78	68	53	41	56
8:00 PM	29	42	40	43	57	42
9:00 PM	25	10	23	30	45	27
10:00 PM	8	12	8	12	20	12
11:00 PM	5	7	5	8	7	6
Day Total	1252	1689	2363	1602	1506	1682
% Weekday Average	74.4%	100.4%	140.5%	95.2%	89.5%	
% Week Average						
AM Peak	9:00 AM	8:00 AM	12:00 AM	8:00 AM	11:00 AM	12:00 AM
Volume	108	112	793	126	120	161
PM Peak	5:00 PM	6:00 PM	12:00 PM	4:00 PM	4:00 PM	6:00 PM
Volume	117	414	132	163	130	152

Average Weekday Profile



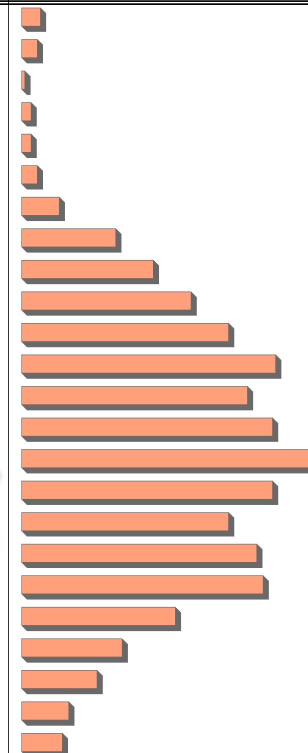
Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: Crestmont Dr just west of SR-227
SPECIFIC LOCATION: Crestmont Dr just west of SR-227
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607206
DIRECTION: EB/WB
DATE: Jan 30 2016 - Jan 31 2016

Start Time	Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM	6	6	6	
1:00 AM	4	5	5	
2:00 AM	1	0	1	
3:00 AM	3	2	3	
4:00 AM	4	1	3	
5:00 AM	6	3	5	
6:00 AM	15	9	12	
7:00 AM	39	21	30	
8:00 AM	53	30	42	
9:00 AM	58	49	54	
10:00 AM	77	55	66	
11:00 AM	**97**	**64**	**81**	
12:00 PM	99	45	72	
1:00 PM	98	61	80	
2:00 PM	**104**	**79**	**92**	
3:00 PM	93	67	80	
4:00 PM	74	57	66	
5:00 PM	79	71	75	
6:00 PM	91	62	77	
7:00 PM	63	34	49	
8:00 PM	32	32	32	
9:00 PM	28	19	24	
10:00 PM	22	8	15	
11:00 PM	23	2	13	
Day Total	1169	782	983	
% Weekday Average				
% Week Average	118.9%	79.6%		
AM Peak Volume	11:00 AM 97	11:00 AM 64	11:00 AM 81	
PM Peak Volume	2:00 PM 104	2:00 PM 79	2:00 PM 92	



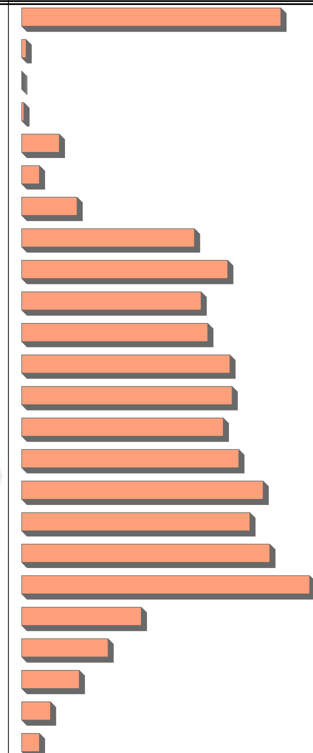
Comments:

SUMMARY - Tube Count - Volume Data (Week)

LOCATION: Crestmont Dr just west of SR-227
SPECIFIC LOCATION: Crestmont Dr just west of SR-227
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607206
DIRECTION: EB/WB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	5	4	**793**	2	3	**161**	6	6	**117**	
1:00 AM	4	0	0	1	0	1	4	5	2	
2:00 AM	1	0	0	0	0	0	1	0	0	
3:00 AM	1	0	0	1	2	1	3	2	1	
4:00 AM	1	1	109	2	3	23	4	1	17	
5:00 AM	7	9	10	13	9	10	6	3	8	
6:00 AM	30	30	31	27	36	31	15	9	25	
7:00 AM	71	98	106	109	105	98	39	21	78	
8:00 AM	94	**112**	117	**126**	117	113	53	30	93	
9:00 AM	**108**	87	94	90	83	92	58	49	81	
10:00 AM	89	61	97	114	94	91	77	55	84	
11:00 AM	89	89	89	110	**120**	99	**97**	**64**	94	
12:00 PM	86	83	**132**	115	107	105	99	45	95	
1:00 PM	77	91	108	100	101	95	98	61	91	
2:00 PM	78	106	111	109	102	101	**104**	**79**	98	
3:00 PM	104	122	132	141	106	121	93	67	109	
4:00 PM	96	102	98	**163**	**130**	118	74	57	103	
5:00 PM	**117**	131	115	143	128	127	79	71	112	
6:00 PM	87	**414**	77	90	90	**152**	91	62	**130**	
7:00 PM	40	78	68	53	41	56	63	34	54	
8:00 PM	29	42	40	43	57	42	32	32	39	
9:00 PM	25	10	23	30	45	27	28	19	26	
10:00 PM	8	12	8	12	20	12	22	8	13	
11:00 PM	5	7	5	8	7	6	23	2	8	
Day Total	1252	1689	2363	1602	1506	1682	1169	782	1478	
% Weekday Average	74.4%	100.4%	140.5%	95.2%	89.5%					
% Week Average	84.7%	114.3%	159.9%	108.4%	101.9%	113.8%	79.1%	52.9%		
AM Peak	9:00 AM	8:00 AM	12:00 AM	8:00 AM	11:00 AM	12:00 AM	11:00 AM	11:00 AM	12:00 AM	
Volume	108	112	793	126	120	161	97	64	117	
PM Peak	5:00 PM	6:00 PM	12:00 PM	4:00 PM	4:00 PM	6:00 PM	2:00 PM	2:00 PM	6:00 PM	
Volume	117	414	132	163	130	152	104	79	130	

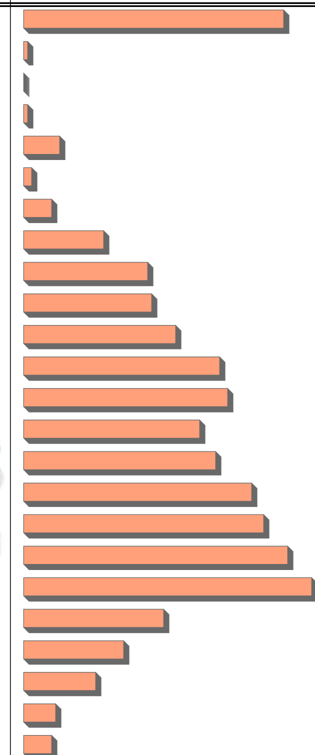


Comments:

LOCATION: Crestmont Dr just west of SR-227
SPECIFIC LOCATION: Crestmont Dr just west of SR-227
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607206
DIRECTION: WB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic	Average Week Profile
12:00 AM	4	3	**435**	2	2	**89**	3	3	**65**	
1:00 AM	2	0	0	1	0	1	2	4	1	
2:00 AM	0	0	0	0	0	0	1	0	0	
3:00 AM	0	0	0	0	0	0	3	1	1	
4:00 AM	0	0	62	1	1	13	1	1	9	
5:00 AM	2	1	2	4	3	2	3	1	2	
6:00 AM	6	8	10	9	9	8	5	3	7	
7:00 AM	19	19	28	33	32	26	8	4	20	
8:00 AM	31	38	42	46	43	40	15	5	31	
9:00 AM	37	33	34	41	33	36	25	19	32	
10:00 AM	42	31	44	43	43	41	34	27	38	
11:00 AM	**48**	**44**	53	**65**	**60**	54	**44**	**28**	49	
12:00 PM	50	50	**70**	65	46	56	49	25	51	
1:00 PM	35	43	57	47	54	47	51	22	44	
2:00 PM	31	58	50	54	50	49	**54**	42	48	
3:00 PM	58	65	67	66	57	63	50	34	57	
4:00 PM	57	62	60	87	77	69	42	36	60	
5:00 PM	**69**	72	69	**88**	**79**	75	45	39	66	
6:00 PM	58	**208**	52	47	50	**83**	47	**44**	**72**	
7:00 PM	29	58	41	41	22	38	36	15	35	
8:00 PM	19	27	28	27	36	27	17	19	25	
9:00 PM	18	8	17	22	32	19	18	12	18	
10:00 PM	5	6	7	8	15	8	11	5	8	
11:00 PM	3	6	4	8	5	5	19	2	7	
Day Total	623	840	1232	805	749	849	583	391	746	
% Weekday Average	73.4%	98.9%	145.1%	94.8%	88.2%					
% Week Average	83.5%	112.6%	165.1%	107.9%	100.4%	113.8%	78.2%	52.4%		
AM Peak	11:00 AM	11:00 AM	12:00 AM	11:00 AM	11:00 AM	12:00 AM	11:00 AM	11:00 AM	12:00 AM	
Volume	48	44	435	65	60	89	44	28	65	
PM Peak	5:00 PM	6:00 PM	12:00 PM	5:00 PM	5:00 PM	6:00 PM	2:00 PM	6:00 PM	6:00 PM	
Volume	69	208	70	88	79	83	54	44	72	



Comments:

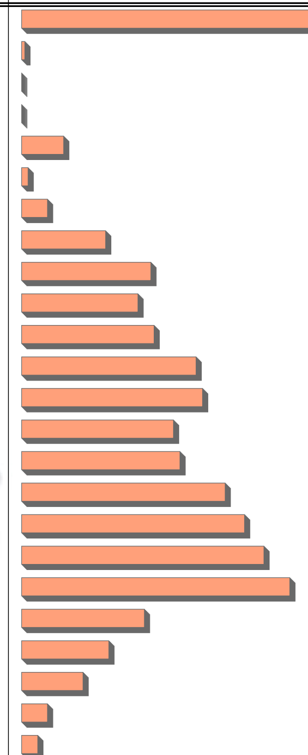
SUMMARY - Tube Count - Volume Data (Weekday)

LOCATION: Crestmont Dr just west of SR-227
SPECIFIC LOCATION: Crestmont Dr just west of SR-227
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607206
DIRECTION: WB
DATE: Jan 25 2016 - Jan 29 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic
12:00 AM	4	3	**435**	2	2	**89**
1:00 AM	2	0	0	1	0	1
2:00 AM	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0
4:00 AM	0	0	62	1	1	13
5:00 AM	2	1	2	4	3	2
6:00 AM	6	8	10	9	9	8
7:00 AM	19	19	28	33	32	26
8:00 AM	31	38	42	46	43	40
9:00 AM	37	33	34	41	33	36
10:00 AM	42	31	44	43	43	41
11:00 AM	**48**	**44**	53	**65**	**60**	54
12:00 PM	50	50	**70**	65	46	56
1:00 PM	35	43	57	47	54	47
2:00 PM	31	58	50	54	50	49
3:00 PM	58	65	67	66	57	63
4:00 PM	57	62	60	87	77	69
5:00 PM	**69**	72	69	**88**	**79**	75
6:00 PM	58	**208**	52	47	50	**83**
7:00 PM	29	58	41	41	22	38
8:00 PM	19	27	28	27	36	27
9:00 PM	18	8	17	22	32	19
10:00 PM	5	6	7	8	15	8
11:00 PM	3	6	4	8	5	5
Day Total	623	840	1232	805	749	849
% Weekday Average	73.4%	98.9%	145.1%	94.8%	88.2%	
% Week Average						
AM Peak Volume	11:00 AM 48	11:00 AM 44	12:00 AM 435	11:00 AM 65	11:00 AM 60	12:00 AM 89
PM Peak Volume	5:00 PM 69	6:00 PM 208	12:00 PM 70	5:00 PM 88	5:00 PM 79	6:00 PM 83

Average Weekday Profile

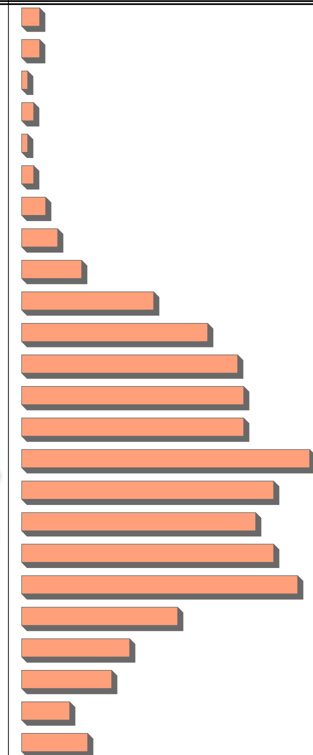


Comments:

LOCATION: Crestmont Dr just west of SR-227
SPECIFIC LOCATION: Crestmont Dr just west of SR-227
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607206
DIRECTION: WB
DATE: Jan 30 2016 - Jan 31 2016

Start Time	Sat 30-Jan-16	Sun 31-Jan-16	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM	3	3	3	
1:00 AM	2	4	3	
2:00 AM	1	0	1	
3:00 AM	3	1	2	
4:00 AM	1	1	1	
5:00 AM	3	1	2	
6:00 AM	5	3	4	
7:00 AM	8	4	6	
8:00 AM	15	5	10	
9:00 AM	25	19	22	
10:00 AM	34	27	31	
11:00 AM	**44**	**28**	**36**	
12:00 PM	49	25	37	
1:00 PM	51	22	37	
2:00 PM	**54**	42	**48**	
3:00 PM	50	34	42	
4:00 PM	42	36	39	
5:00 PM	45	39	42	
6:00 PM	47	**44**	46	
7:00 PM	36	15	26	
8:00 PM	17	19	18	
9:00 PM	18	12	15	
10:00 PM	11	5	8	
11:00 PM	19	2	11	
Day Total	583	391	490	
% Weekday Average				
% Week Average	119.0%	79.8%		
AM Peak	11:00 AM	11:00 AM	11:00 AM	
Volume	44	28	36	
PM Peak	2:00 PM	6:00 PM	2:00 PM	
Volume	54	44	48	



Comments:

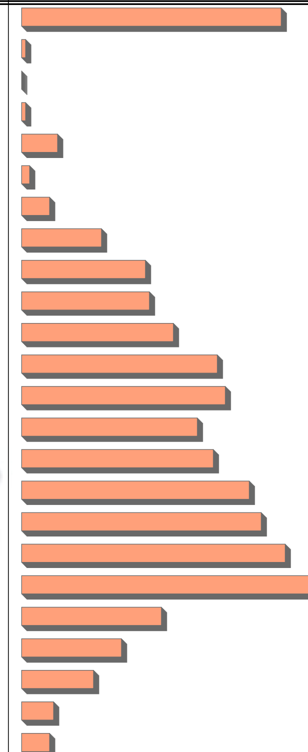
SUMMARY - Tube Count - Volume Data (Week)

LOCATION: Crestmont Dr just west of SR-227
SPECIFIC LOCATION: Crestmont Dr just west of SR-227
CITY/STATE: San Luis Obispo, CA

QC JOB #: 13607206
DIRECTION: WB
DATE: Jan 25 2016 - Jan 31 2016

Start Time	Mon 25-Jan-16	Tue 26-Jan-16	Wed 27-Jan-16	Thu 28-Jan-16	Fri 29-Jan-16	Average Weekday Hourly Traffic	Sat 30-Jan-16	Sun 31-Jan-16	Average Week Hourly Traffic
12:00 AM	4	3	**435**	2	2	**89**	3	3	**65**
1:00 AM	2	0	0	1	0	1	2	4	1
2:00 AM	0	0	0	0	0	0	1	0	0
3:00 AM	0	0	0	0	0	0	3	1	1
4:00 AM	0	0	62	1	1	13	1	1	9
5:00 AM	2	1	2	4	3	2	3	1	2
6:00 AM	6	8	10	9	9	8	5	3	7
7:00 AM	19	19	28	33	32	26	8	4	20
8:00 AM	31	38	42	46	43	40	15	5	31
9:00 AM	37	33	34	41	33	36	25	19	32
10:00 AM	42	31	44	43	43	41	34	27	38
11:00 AM	**48**	**44**	53	**65**	**60**	54	**44**	**28**	49
12:00 PM	50	50	**70**	65	46	56	49	25	51
1:00 PM	35	43	57	47	54	47	51	22	44
2:00 PM	31	58	50	54	50	49	**54**	42	48
3:00 PM	58	65	67	66	57	63	50	34	57
4:00 PM	57	62	60	87	77	69	42	36	60
5:00 PM	**69**	72	69	**88**	**79**	75	45	39	66
6:00 PM	58	**208**	52	47	50	**83**	47	**44**	**72**
7:00 PM	29	58	41	41	22	38	36	15	35
8:00 PM	19	27	28	27	36	27	17	19	25
9:00 PM	18	8	17	22	32	19	18	12	18
10:00 PM	5	6	7	8	15	8	11	5	8
11:00 PM	3	6	4	8	5	5	19	2	7
Day Total	623	840	1232	805	749	849	583	391	746
% Weekday Average	73.4%	98.9%	145.1%	94.8%	88.2%				
% Week Average	83.5%	112.6%	165.1%	107.9%	100.4%	113.8%	78.2%	52.4%	
AM Peak	11:00 AM	11:00 AM	12:00 AM	11:00 AM	11:00 AM	12:00 AM	11:00 AM	11:00 AM	12:00 AM
Volume	48	44	435	65	60	89	44	28	65
PM Peak	5:00 PM	6:00 PM	12:00 PM	5:00 PM	5:00 PM	6:00 PM	2:00 PM	6:00 PM	6:00 PM
Volume	69	208	70	88	79	83	54	44	72

Average Week Profile



Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97223
971-223-0003
www.qualitycounts.net

	13607217				
	SB		WB	NB	
	Thru	Left	Right/Left	Right	Thru
7:00 AM	0	1	1	0	0
7:15 AM	0	1	1	0	0
7:30 AM	0	2	2	0	0
7:45 AM	0	3	1	0	0
8:00 AM	0	2	2	0	0
8:15 AM	0	9	1	0	0
8:30 AM	0	9	3	0	0
8:45 AM	0	8	3	0	0

	13607218				
	SB		WB	NB	
	Thru	Left	Right/Left	Right	Thru
11:30 AM	0	1	1	0	0
11:45 AM	0	1	1	0	0
12:00 PM	0	2	2	0	0
12:15 PM	0	3	2	0	0
12:30 PM	0	2	1	0	0
12:45 PM	0	3	2	0	0
1:00 PM	0	2	2	0	0
1:15 PM	0	2	3	0	0

	13607219				
	SB		WB	NB	
	Thru	Left	Right/Left	Right	Thru
4:00 PM	0	0	3	0	0
4:15 PM	0	1	2	0	0
4:30 PM	7	1	3	0	0
4:45 PM	5	1	2	0	0
5:00 PM	7	0	3	0	0
5:15 PM	4	1	2	0	0
5:30 PM	3	1	3	0	0
5:45 PM	0	1	5	0	0

7409 SW Tech Center Dr, Ste B150
Tigard, OR 97223
971-223-0003
www.qualitycounts.net

	13607214						
	SB		WB	NB			EB
	Right / Thru	Left	Right/Thru/ Left	Right	Thru	Left	Right/Thru/Left
7:00 AM	0	0	0	0	0	1	1
7:15 AM	0	1	1	0	0	1	2
7:30 AM	0	0	1	0	0	1	3
7:45 AM	0	0	0	0	0	1	2
8:00 AM	0	0	0	0	0	1	3
8:15 AM	0	0	1	0	0	1	2
8:30 AM	0	0	0	0	0	1	2
8:45 AM	0	0	1	0	0	1	4

	13607215						
	SB		WB	NB			EB
	Right / Thru	Left	Right/Thru/ Left	Right	Thru	Left	Right/Thru/Left
11:30 AM	0	0	0	0	0	1	2
11:45 AM	0	0	0	0	0	1	2
12:00 PM	0	0	0	0	0	1	2
12:15 PM	0	0	0	0	0	1	2
12:30 PM	0	0	1	0	0	2	1
12:45 PM	0	0	0	0	0	2	2
1:00 PM	0	0	0	0	0	2	3
1:15 PM	0	0	1	0	0	1	1

	13607216						
	SB		WB	NB			EB
	Right / Thru	Left	Right/Thru/ Left	Right	Thru	Left	Right/Thru/Left
4:00 PM	0	0	0	0	0	1	4
4:15 PM	0	0	0	0	0	2	2
4:30 PM	0	0	1	0	0	2	3
4:45 PM	0	0	0	0	0	2	10
5:00 PM	0	0	0	0	0	1	3
5:15 PM	0	0	1	0	0	1	3
5:30 PM	0	0	0	0	0	1	4
5:45 PM	0	0	0	0	0	1	2

California Department of Transportation

OTM22130

Table B - Selective Accident Rate Calculation

Policy controlling the use of Traffic Accident Surveillance and Analysis System (TASAS) - Transportation Systems Network (TSN) Reports

1. TASAS - TSN has officially replaced the TASAS - "Legacy" database.

2. Reports from TSN are to be used and interpreted by the California Department of Transportation (Caltrans) officials or authorized representative.

3. Electronic versions of these reports may be emailed between Caltrans' employees only using the State computer system.

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OTM22130

Table B - Selective Accident Rate Calculation

Report Parameters-

Event ID: 3780999

Request Name: CPRA SLO 227 SLOCOG Braughton

Ref Date: 02/22/2016

Request- & Line	LOC	DIR	LSC	Route/Location	Begin Date	End Date	Rate Type	Out Seq	Override Rates: Rate	Override Rates: Inj%	Override Rates: Fat%	Override ADT: Main	Override ADT: Cross	Req. Type	Com- bine?	Excl Ramp?
1 2	H	T	I	05 SLO 227 006.200 - 05 SLO 227 R010.264	01-JAN-11	31-DEC-13	N	L						B	N	N

Event Log:

Job id is : 650344 Accidents Table B Request CPRA SLO 227 SLOCOG Braughton Submitted by T5SCADEN
05 SLO 227 6.2 - 05 SLO 227 R 10.264 01/01/2011 TO 12/31/2013

California Department of Transportation
Table B - Selective Accident Rate Calculation

Location Description					Rate Group (RUS)	No. of Accidents / Significance: Tot	Fat	Inj	F+I	Multi Veh	Wet	Dark	Pers Kld Inj	ADT Main X-St	Total MV+ or MVM	Accident Rates Actual: Fat	F+I	Tot	Average: Fat	F+I	Tot
05 SLO 227 006.200 - 05 SLO 227 R007.492				**1.293 MI**	H 03	14	0	4	4	7	1	6	0	6.1	8.64	0.000	.46	1.62	0.026	.56	1.20
0001-0002	2011-01-01	2013-12-31	*36 mo.*		R								5								
05 SLO 227 R007.493 - 05 SLO 227 R009.604				**2.112 MI**	H 01	17	0	8	8	13	3	5	0	12.2	28.24	0.000	.28	.60	0.020	.36	.85
0001-0002	2011-01-01	2013-12-31	*36 mo.*		R								10								
05 SLO 227 R009.605 - 05 SLO 227 R010.263				**.659 MI**	H 08	8	0	3	3	8	0	2	0	13.7	9.89	0.000	.30	.81	0.016	.56	1.32
0001-0002	2011-01-01	2013-12-31	*36 mo.*		S								4								

Accident Rates expressed as: **# of accidents / Million vehicle miles**

+ denotes that **Million Vehicles** (MV) used in accident rates instead (for intersections and ramps).

For Ramps RUS only considers R(Rural) U(Urban)

OTM22130

Table B - Selective Accident Rate Calculation

Policy controlling the use of Traffic Accident Surveillance and Analysis System (TASAS) - Transportation Systems Network (TSN) Reports

1. TASAS - TSN has officially replaced the TASAS - "Legacy" database.

2. Reports from TSN are to be used and interpreted by the California Department of Transportation (Caltrans) officials or authorized representative.

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OTM22130

Table B - Selective Accident Rate Calculation

Report Parameters-

Event ID: 3780998

Request Name: CPRA SLO 227 SLOCOG Braughton

Ref Date: 02/22/2016

Request- & Line	LOC	DIR	LSC	Route/Location	Begin Date	End Date	Rate Type	Out Seq	Override Rates: Rate	Override Rates: Inj%	Override Rates: Fat%	Override ADT: Main	Override ADT: Cross	Req. Type	Com- bine?	Excl Ramp?
1 1	H	T	I	05 SLO 227 006.200 - 05 SLO 227 R010.264	01-JAN-11	31-DEC-13	N	L						N	N	N

Event Log:

Job id is : 650343 Accidents Table B Request CPRA SLO 227 SLOCOG Braughton Submitted by T5SCADEN
05 SLO 227 6.2 - 05 SLO 227 R 10.264 01/01/2011 TO 12/31/2013

Location Description		**Rate Group (RUS)**	No. of Accidents / Significance Tot	Fat	Inj	F+I	Multi Veh	Wet	Dark	**Pers** Kld Inj	**ADT** Main X-St	Total **MV+** or **MVM**	Accident Rates Actual Fat	Actual F+I	Actual Tot	Average Fat	Average F+I	Average Tot
05 SLO 227 006.200 - 05 SLO 227 R010.263 0001-0001 2011-01-01 2013-12-31	**4.064 MI** *36 mo.*	H NA	39	0	15	15	28	4	13	0 19	10.5	46.62	0.000	.32	.84	0.022	.46	1.04

Accident Rates expressed as: **# of accidents / Million vehicle miles**

+ denotes that **Million Vehicles** (MV) used in accident rates instead (for intersections and ramps).

For Ramps RUS only considers R(Rural) U(Urban)

California Department of Transportation

OTM22130

Table B - Selective Accident Rate Calculation

Policy controlling the use of Traffic Accident Surveillance and Analysis System (TASAS) - Transportation Systems Network (TSN) Reports

1. TASAS - TSN has officially replaced the TASAS - "Legacy" database.

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OTM22130

Table B - Selective Accident Rate Calculation

Report Parameters-

Event ID: 3781000

Request Name: CPRA SLO 227 SLOCOG Braughton

Ref Date: 02/22/2016

Request- & Line	LOC	DIR	LSC	Route/Location	Begin Date	End Date	Rate Type	Out Seq	Override Rates: Rate	Override Rates: Inj%	Override Rates: Fat%	Override ADT: Main	Override ADT: Cross	Req. Type	Com-bine?	Excl Ramp?
1 3	I	T	I	05 SLO 227 006.200 - 05 SLO 227 R010.264	01-JAN-11	31-DEC-13	N	L						N	N	N

<u>Event Log:</u>

Job id is : 650345 Accidents Table B Request CPRA SLO 227 SLOCOG Braughton Submitted by T5SCADEN
No intersection at 05 SLO 227 between PM 6.2 and PM 6.414 for request 1 on line 3
No intersection at 05 SLO 227 between PM 7.243 and PM 7.493 for request 1 on line 3
05 SLO 227 6.2 - 05 SLO 227 R 10.264 01/01/2011 TO 12/31/2013

California Department of Transportation
Table B - Selective Accident Rate Calculation

Location Description	Rate Group (RUS)	Tot	Fat	Inj	F+I	Multi Veh	Wet	Dark	Pers Kld Inj	ADT Main X-St	Total MV+ or MVM	Actual Fat	Actual F+I	Actual Tot	Average Fat	Average F+I	Average Tot
05 SLO 227 R006.700 D CORBETT CYN RD - RT 0001-0003 2011-01-01 2013-12-31 *36 mo.*	I 17 R	1	0	1	1	0	1	1	0 1	4.2 1.8	6.58 +	0.000	.15	.15	0.003	.07	.16
05 SLO 227 007.028 D GREENGATE ROAD, RT 0001-0003 2011-01-01 2013-12-31 *36 mo.*	I 16 R	0	0	0	0	0	0	0	0 0	4.7 .1	5.22 +	0.000	.00	.00	0.002	.06	.12
05 SLO 227 007.120 PRICE CYN RD 0001-0003 2011-01-01 2013-12-31 *36 mo.*	I 04 R	7	0	1	1	5	0	2	0 1	7.7 4.8	13.68 +	0.000	.07	.51	0.004	.19	.50
05 SLO 227 R008.249 D BIDDLE RANCH ROAD 0001-0003 2011-01-01 2013-12-31 *36 mo.*	I 02 R	2	0	0	0	2	0	0	0 0	11.1 1.3	13.61 +	0.000	.00	.15	0.005	.10	.23
05 SLO 227 R009.089 LOS RANCHOS RD 0001-0003 2011-01-01 2013-12-31 *36 mo.*	I 04 R	4	0	1	1	2	1	2	0 1	13.3 3.1	18.02 +	0.000	.06	.22	0.004	.19	.50
05 SLO 227 R009.367 CRESTMONT RD 0001-0003 2011-01-01 2013-12-31 *36 mo.*	I 17 R	3	0	2	2	3	0	0	0 4	14.5 1.4	17.41 +	0.000	.11	.17	0.003	.07	.16
05 SLO 227 R009.818 BUCKLEY RD 0001-0003 2011-01-01 2013-12-31 *36 mo.*	I 09 S	2	0	0	0	2	0	0	0 0	14.1 2.2	17.82 +	0.000	.00	.11	0.002	.17	.43
05 SLO 227 R010.239 WOODS ANIMAL SHELTER 0001-0003 2011-01-01 2013-12-31 *36 mo.*	I 22 S	1	0	0	0	1	0	1	0 0	10.1 .1	11.18 +	0.000	.00	.09	0.001	.05	.14

Accident Rates expressed as: **# of accidents / Million vehicle miles**

+ denotes that **Million Vehicles** (MV) used in accident rates instead (for intersections and ramps).

For Ramps RUS only considers R(Rural) U(Urban)

CASE_ID	ACCIDENT_YEAR	PROC_DATE	JURIS	COLLISION_DATE	COLLISION_TIME	OFFICER_ID	REPORTING_DISTRICT	DAY_OF_WEEK	CHP_SHIFT	POPULATION	CNTY_CITY_LOC	SPECIAL_COND	BEAT_TYPE
Intersection Crashes													
5645132	2012	20140109	4006	20120525	325	18926	0	5	5	4	4006	0	0
6420391	2014	20140623	9745	20140303	1625	17541	0	1	2	4	4006	0	1
5563845	2012	20140613	9745	20120824	1210	17144	0	5	1	9	4000	0	3
5589337	2012	20131227	9745	20120308	1745	18786	0	4	2	4	4006	0	1
5461001	2012	20130913	9745	20120124	1442	15144	0	2	2	9	4000	0	1
5551123	2012	20140108	9745	20120405	800	14543	0	4	1	9	4000	0	1
5664359	2012	20140108	9745	20120601	1243	11620	0	5	1	9	4000	0	1
5474761	2012	20131031	9745	20120104	1145	15144	0	3	1	9	4000	0	1
5798941	2012	20140815	9745	20120830	2015	17968	0	4	2	9	4000	0	1
5854674	2012	20140908	9745	20121109	850	11721	0	5	1	9	4000	0	1
6188448	2013	20140320	9745	20130828	822	13531	0	3	1	9	4000	0	1
5945271	2013	20141202	9745	20130219	1435	12601	0	2	2	9	4000	0	1
5993847	2013	20141202	9745	20130127	1600	15734	0	7	2	9	4000	0	1
6367563	2013	20150817	9745	20131121	1725	11589	0	4	2	9	4000	0	1
6519834	2014	20150413	9745	20140603	1457	13531	0	2	2	9	4000	0	1
6626108	2014	20150523	9745	20140902	1745	16514	0	2	2	9	4000	0	1
6609007	2014	20150511	9745	20140828	1410	14996	0	4	2	9	4000	0	1
6657050	2014	20150612	9745	20141002	840	12601	0	4	1	9	4000	0	3
6719265	2014	20150625	9745	20141123	1220	14910	0	7	1	9	4000	0	3
Segment Crashes													
6023266	2013	20141202	9745	20130403	1430	12876	0	3	2	4	4006	0	1
5523324	2012	20130924	9745	20120211	2150	17541	0	6	2	9	4000	0	1
5848919	2012	20140107	9745	20121106	1730	16068	0	2	2	9	4000	0	1
5581473	2012	20131211	9745	20120328	400	16574	0	3	3	9	4000	0	1
5998989	2013	20141120	9745	20130116	1710	11589	0	3	2	9	4000	0	1
6244036	2013	20140430	9745	20131015	805	11620	0	2	1	9	4000	0	1
6044656	2013	20141202	9745	20130413	150	17151	0	6	3	9	4000	0	1
6250855	2013	20131212	9745	20131028	750	11620	0	1	1	9	4000	0	1
6313022	2013	20141222	9745	20131224	1159	12601	0	2	1	9	4000	0	1
6313023	2013	20141222	9745	20131224	1200	12601	0	2	1	9	4000	0	1
6389969	2014	20140616	9745	20140217	1535	11620	0	1	2	9	4000	0	1
6544544	2014	20140812	9745	20140624	1435	17144	0	2	2	9	4000	0	1
6687738	2014	20150604	9745	20141020	1535	15734	0	1	2	9	4000	0	1

CHP_BEAT_TYPE	CITY_DIVISION_LAPD	CHP_BEAT_CLASS	BEAT_NUMBER	PRIMARY_RD	SECONDARY_RD	DISTANCE	DIRECTION	INTERSECTION	WEATHER_1	WEATHER_2	STATE_HWY_IND	CALTRANS_COUNTY
0		0	0	RT 227	LOS RANCHOS	27	S	N	A	-	Y	SLO
3		1	32	RT 227	BUCKLEY RD	30	N	N	A	-	Y	
5		2	3	CRESTMONT DR	RT 227	70	W	N	A	-	Y	SLO
3		1	32	RT 227	BUCKLEY RD	75	N	N	A	-	Y	SLO
3		1	32	RT 227	BUCKLEY RD	250	N	N	A	-	Y	SLO
3		1	32	RT 227	CRESTMONT DR	35	N	N	A	-	Y	SLO
3		1	32	RT 227	CRESTMONT DR	0		Y	A	-	Y	SLO
3		1	32	RT 227	FARMHOUSE LN	45	S	N	A	-	N	
3		1	32	RT 227	KENDALL RD	300	N	N	A	-	Y	SLO
3		1	32	RT 227	LOS RANCHOS RD	40	S	N	C	-	Y	SLO
3		1	32	RT 227	KENDALL RD	126	S	N	A	-	Y	
3		1	32	RT 227	BUCKLEY RD	140	S	N	B	C	Y	SLO
3		1	32	RT 227	KENDALL DR	256	N	N	A	-	Y	SLO
3		1	32	RT 227	FARMHOUSE LN	100	S	N	B	-	N	
3		1	32	RT 227	BUCKLEY RD	90	S	N	A	-	Y	
3		1	32	RT 227	BUCKLEY RD	167	S	N	A	-	Y	
2		2	303	BUCKLEY RD	RT 227	40	W	N	A	-	Y	
5		2	3	BUCKLEY RD	RT 227	0		Y	A	-	Y	
5		2	3	BUCKLEY RD	RT 227	20	W	N	A	-	Y	
3		1	32	RT 227	LOS RANCHOS RD	1056	S	N	A	-	Y	SLO
3		1	32	RT 227	LOS RANCHOS RD	1175	S	N	A	-	Y	SLO
3		1	32	RT 227	BUCKLEY RD	528	N	N	A	-	Y	SLO
3		1	32	RT 227	BIDDLE RANCH RD	1200	N	N	C	-	Y	SLO
3		1	32	RT 227	LOS RANCHOS RD	600	N	N	A	-	Y	SLO
3		1	32	RT 227	BIDDLE RANCH RD	1584	N	N	A	-	Y	
3		1	32	RT 227	LOS RANCHOS RD	528	S	N	A	-	Y	SLO
3		1	32	RT 227	BIDDLE RANCH RD	1584	N	N	B	C	Y	
3		1	32	RT 227	PRICE CANYON RD	1320	N	N	A	-	Y	
3		1	32	RT 227	PRICE CANYON RD	1320	N	N	A	-	Y	
3		1	32	RT 227	CRESTMONT DR	550	S	N	A	-	Y	
3		1	32	RT 227	BUCKLEY RD	120	S	N	A	-	Y	
3		1	32	RT 227	BIDDLE RANCH RD	1584	S	N	B	-	Y	

CALTRANS_DISTRICT	STATE_ROUTE	ROUTE_SUFFIX	POSTMILE_PREFIX	POSTMILE	LOCATION_TYPE	RAMP_INTERSECTION	SIDE_OF_HWY	TOW_AWAY	COLLISION_SEVERITY	NUMBER_KILLED	NUMBER_INJURED
5	227	-	R	9.08	H	-	S	Y	3	0	1
0	0			0.00				N	4	0	1
5	227	-	R	9.37	I	6	S	N	0	0	0
5	227	-	R	9.83	H	-	S	N	0	0	0
5	227	-	R	9.87	H	-	S	N	4	0	1
5	227	-	R	9.38	H	-	N	Y	4	0	2
5	227	-	R	9.37	I	5	S	Y	4	0	2
0	0			0.00				Y	0	0	0
5	227	-	R	10.20	H	-	N	N	0	0	0
5	227	-	R	9.08	H	-	N	N	0	0	0
0	0			0.00				Y	3	0	2
5	227	-	R	9.79	H	-	N	Y	0	0	0
5	227	-	R	10.12	H	-	N	Y	0	0	0
0	0			0.00				Y	0	0	0
0	0			0.00				Y	0	0	0
0	0			0.00				Y	0	0	0
0	0			0.00				Y	0	0	0
0	0			0.00				N	0	0	0
0	0			0.00					0	0	0
5	227	-	R	9	H	-	S	N	-	-	-
5	227	-	R	9	H	-	N	Y	2	-	1
5	227	-	R	10	H	-	S	N	4	-	1
5	227	-	R	8	H	-	N	Y	-	-	-
5	227	-	R	9	H	-	S	Y	4	-	1
-	-			-				Y	4	-	1
5	227	-	R	9	H	-	S	N	-	-	-
-	-			-				Y	-	-	-
-	-			-				N	-	-	-
-	-			-				N	-	-	-
-	-			-				N	4	-	1
-	-			-				Y	4	-	1
-	-			-				N	-	-	-

PARTY_COUNT	PRIMARY_COLL_FACTOR	PCF_CODE_OF_VIOL	PCF_VIOL_CATEGORY	PCF_VIOLATION	PCF_VIOL_SUBSECTION	HIT_AND_RUN	TYPE_OF_COLLISION	MVIW	PED_ACTION	ROAD_SURFACE	ROAD_COND_1
1	A	-	1	23152	A	N	E	I	A	A	H
2	A	-	21	22106		N	C	C	A	A	H
2	A	-	21	22106		N	C	C	A	A	H
2	A	-	3	22350		N	C	C	A	A	H
4	A	-	3	22350		M	C	C	A	A	H
4	A	-	3	22350		N	C	C	A	A	H
2	A	-	12	22450	A	N	D	C	A	A	H
3	A	-	3	22350		N	C	C	A	A	H
2	A	-	1	23152	A	N	B	C	A	A	H
2	A	-	3	22350		N	C	C	A	B	H
2	A	-	8	22107		N	C	C	A	A	H
2	A	-	3	22350		N	C	C	A	A	H
2	A	-	7	21658	A	N	B	C	A	A	H
3	A	-	3	22350		N	C	C	A	A	H
3	A	-	3	22350		N	C	C	A	A	H
3	A	-	3	22350		N	C	C	A	A	H
2	A	-	3	22350		N	C	C	A	A	H
2	A	-	21	22106		N	C	C	A	A	H
2	A	-	21	22106		M	C	C	A	A	H
2	A	-	17	23114	A	N	H	A	A	A	H
2	A	-	3	22350		F	C	C	A	A	H
2	A	-	3	22350		N	C	C	A	A	H
1	A	-	8	22107		N	E	I	A	B	H
3	A	-	3	22350		N	C	C	A	A	H
2	A	-	3	22350		N	C	C	A	A	H
3	A	-	3	22350		M	C	C	A	A	H
1	A	-	8	22107		N	F	A	A	B	H
2	A	-	3	22350		N	C	C	A	A	H
2	A	-	3	22350		N	C	C	A	A	H
2	A	-	3	22350		N	C	C	A	A	H
2	A	-	3	22350		N	C	C	A	A	H
2	A	-	8	22107		N	B	C	A	A	H

ROAD_COND_2	LIGHTING	CONTROL_DEVICE	CHP_ROAD_TYPE	PEDESTRIAN_ACCIDENT	BICYCLE_ACCIDENT	MOTORCYCLE_ACCIDENT	TRUCK_ACCIDENT	NOT_PRIVATE_PROPERTY	ALCOHOL_INVOLVED
-	C	D	0					Y	Y
-	A	D	0					Y	
-	A	D	0					Y	
-	A	D	0					Y	
-	A	D	0					Y	
-	A	A	0					Y	
-	A	A	0					Y	
-	A	D	0					Y	
-	D	D	0					Y	
-	A	A	0					Y	
-	A	D	0					Y	
-	A	A	0					Y	
-	A	D	0					Y	
-	D	D	0					Y	
-	A	A	0					Y	
-	A	D	0					Y	
-	A	A	0					Y	
-	A	A	0					Y	
-	A	A	0					Y	
-	A	D	0				Y	Y	
-	D	D	0			Y		Y	
-	B	A	0					Y	
-	D	D	0					Y	
-	A	A	0					Y	
-	A	D	0					Y	
-	D	D	0					Y	
-	A	D	0					Y	
-	A	D	0					Y	
-	A	D	0					Y	
-	A	D	0					Y	
-	A	D	0					Y	
-	A	D	0					Y	

STWD_VEHTYPE_AT_FAULT	CHP_VEHTYPE_AT_FAULT	COUNT_SEVERE_INJ	COUNT_VISIBLE_INJ	COUNT_COMPLAINT_PAIN	COUNT_PED_KILLED	COUNT_PED_INJURED	COUNT_BICYCLIST_KILLED
A	1	-	1	-	-	-	-
A	1	-	-	1	-	-	-
A	1	-	-	-	-	-	-
A	1	-	-	-	-	-	-
-	99	-	-	1	-	-	-
A	8	-	-	2	-	-	-
A	7	-	-	2	-	-	-
A	1	-	-	-	-	-	-
A	1	-	-	-	-	-	-
D	22	-	-	-	-	-	-
A	1	-	1	1	-	-	-
A	1	-	-	-	-	-	-
A	1	-	-	-	-	-	-
A	1	-	-	-	-	-	-
D	22	-	-	-	-	-	-
A	1	-	-	-	-	-	-
E	22	-	-	-	-	-	-
D	22	-	-	-	-	-	-
D	22	-	-	-	-	-	-
F	27	0	0	0	0	0	0
A	1	1	0	0	0	0	0
A	1	0	0	1	0	0	0
A	1	0	0	0	0	0	0
A	1	0	0	1	0	0	0
D	22	0	0	1	0	0	0
A	7	0	0	0	0	0	0
D	22	0	0	0	0	0	0
D	22	0	0	0	0	0	0
A	1	0	0	0	0	0	0
D	22	0	0	1	0	0	0
A	1	0	0	1	0	0	0
A	1	0	0	0	0	0	0

COUNT_BICYCLIST_INJURED	COUNT_MC_KILLED	COUNT_MC_INJURED	PRIMARY_RAMP	SECONDARY_RAMP	LATITUDE	LONGITUDE
-	-	-	-	-	0.00000	0.00000
-	-	-	-	-	0.00000	0.00000
-	-	-	-	-	0.00000	0.00000
-	-	-	-	-	35.23152	-120.63022
-	-	-	-	-	35.23167	-120.53029
-	-	-	-	-	35.22767	-120.62776
-	-	-	-	-	35.22731	-120.62831
-	-	-	-	-	35.23853	-120.63584
-	-	-	-	-	35.23792	-120.63527
-	-	-	-	-	35.22419	-120.62335
-	-	-	-	-	35.23665	-120.63393
-	-	-	-	-	35.23030	-120.62935
-	-	-	-	-	35.23860	-120.63563
-	-	-	-	-	35.23854	-120.63584
-	-	-	-	-	35.22306	-120.62850
-	-	-	-	-	35.23004	-120.62946
-	-	-	-	-	35.23059	-120.62971
-	-	-	-	-	35.23302	-120.63167
-	-	-	-	-	35.23089	-120.63009
0	0	0	-	-	35.22175	-120.62190
0	0	1	-	-	35.22191	-120.62220
0	0	0	-	-	35.23241	-120.63053
0	0	0	-	-	35.21923	-120.61795
0	0	0	-	-	35.22589	-120.62686
0	0	0	-	-	35.21888	-120.61806
0	0	0	-	-	35.22212	-120.62281
0	0	0	-	-	35.21927	-120.61845
0	0	0	-	-	35.20535	-120.61399
0	0	0	-	-	35.20535	-120.61399
0	0	0	-	-	35.22579	-120.62689
0	0	0	-	-	35.23268	-120.63071
0	0	0	-	-	35.21009	-120.61600

APPENDIX D

INTERSECTION LOS WORKSHEETS

&

95th PERCENTILE QUEUE REPORTS

&

SIGNAL WARRANT WORKSHEETS

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	1	0	4	1294	620	4
Future Vol, veh/h	1	0	4	1294	620	4
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	3	5	0
Mvmt Flow	1	0	4	1362	653	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2026	656	657	0	-	0
Stage 1	655	-	-	-	-	-
Stage 2	1371	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	64	469	940	-	-	-
Stage 1	521	-	-	-	-	-
Stage 2	238	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	63	469	939	-	-	-
Mov Cap-2 Maneuver	171	-	-	-	-	-
Stage 1	521	-	-	-	-	-
Stage 2	234	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.2	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	939	-	171	-	-
HCM Lane V/C Ratio	0.004	-	0.006	-	-
HCM Control Delay (s)	8.9	0	26.2	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	0	18	1280	7	37	583
Future Vol, veh/h	0	18	1280	7	37	583
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	325	190	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	7
Mvmt Flow	0	19	1347	7	39	614

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2039	1347	0	0	1347	0
Stage 1	1347	-	-	-	-	-
Stage 2	692	-	-	-	-	-
Critical Hdwy	6.4	6.26	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.354	-	-	2.2	-
Pot Cap-1 Maneuver	63	181	-	-	518	-
Stage 1	245	-	-	-	-	-
Stage 2	500	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	58	181	-	-	518	-
Mov Cap-2 Maneuver	170	-	-	-	-	-
Stage 1	245	-	-	-	-	-
Stage 2	462	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.2	0	0.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	181	518	-
HCM Lane V/C Ratio	-	-	0.105	0.075	-
HCM Control Delay (s)	-	-	27.2	12.5	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	3	22	1261	59	112	469
Future Vol, veh/h	3	22	1261	59	112	469
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	350	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	2	3	3	5
Mvmt Flow	3	23	1327	62	118	494

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2056	1327	0	0	1327	0
Stage 1	1327	-	-	-	-	-
Stage 2	729	-	-	-	-	-
Critical Hdwy	6.4	6.29	-	-	4.13	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.381	-	-	2.227	-
Pot Cap-1 Maneuver	61	183	-	-	517	-
Stage 1	250	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	47	183	-	-	517	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	250	-	-	-	-	-
Stage 2	371	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.5	0	2.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	179	517	-
HCM Lane V/C Ratio	-	-	0.147	0.228	-
HCM Control Delay (s)	-	-	28.5	14	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.5	0.9	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	0	110	0	0	1	214	1297	1	2	458	51
Future Volume (vph)	27	0	110	0	0	1	214	1297	1	2	458	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.86		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1626	1455		822		1770	1863		1805	1792	1423
Flt Permitted		0.95	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1626	1455		822		1770	1863		1805	1792	1423
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	30	0	122	0	0	1	238	1441	1	2	509	57
RTOR Reduction (vph)	0	0	76	0	1	0	0	0	0	0	0	34
Lane Group Flow (vph)	0	30	46	0	0	0	238	1442	0	2	509	23
Confl. Bikes (#/hr)									4			2
Heavy Vehicles (%)	11%	0%	11%	0%	0%	100%	2%	2%	0%	0%	6%	11%
Turn Type	Split	NA	pm+ov		NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4	1		3		1	6		5	2	
Permitted Phases			4	3								2
Actuated Green, G (s)		4.1	29.3		0.8		25.2	54.3		0.7	30.0	30.0
Effective Green, g (s)		4.1	29.3		0.8		25.2	54.3		0.7	30.0	30.0
Actuated g/C Ratio		0.05	0.37		0.01		0.32	0.69		0.01	0.38	0.38
Clearance Time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Vehicle Extension (s)		2.5	2.0		3.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		85	545		8		570	1293		16	687	545
v/s Ratio Prot		c0.02	0.03		c0.00		c0.13	c0.77		0.00	0.28	
v/s Ratio Perm			0.00									0.02
v/c Ratio		0.35	0.08		0.00		0.42	1.12		0.12	0.74	0.04
Uniform Delay, d1		35.8	15.8		38.3		20.8	12.0		38.4	20.8	15.1
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.8	0.0		0.1		0.2	63.0		1.3	3.8	0.0
Delay (s)		37.6	15.8		38.4		20.9	74.9		39.7	24.5	15.1
Level of Service		D	B		D		C	E		D	C	B
Approach Delay (s)		20.1			38.4			67.3			23.6	
Approach LOS		C			D			E			C	

Intersection Summary			
HCM 2000 Control Delay	53.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	78.2	Sum of lost time (s)	18.3
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	48.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	68	0	27	1	0	2	16	1442	2	0	542	26
Future Vol, veh/h	68	0	27	1	0	2	16	1442	2	0	542	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	124	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	4	0	4	0	0	0	0	2	50	0	8	35
Mvmt Flow	76	0	30	1	0	2	18	1620	2	0	609	29

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2281	2280	625	2295	2294	1621	638	0	0	1620	0	0
Stage 1	624	624	-	1656	1656	-	-	-	-	-	-	-
Stage 2	1657	1656	-	639	638	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.5	6.24	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4	3.336	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 28	40	481	28	40	128	956	-	-	407	-	-
Stage 1	470	481	-	125	157	-	-	-	-	-	-	-
Stage 2	122	157	-	468	474	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 27	39	481	26	39	128	955	-	-	407	-	-
Mov Cap-2 Maneuver	~ 27	39	-	26	39	-	-	-	-	-	-	-
Stage 1	461	481	-	123	154	-	-	-	-	-	-	-
Stage 2	118	154	-	438	474	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 1079.7	74.7	0.1	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	955	-	-	37	55	407	-	-
HCM Lane V/C Ratio	0.019	-	-	2.885	0.061	-	-	-
HCM Control Delay (s)	8.8	-	$	1079.7	74.7	0	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	12	0.2	0	-	-

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	317	1	49	2	1	10	61	1120	5	5	303	271
Future Volume (vph)	317	1	49	2	1	10	61	1120	5	5	303	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.0		3.5	6.4		3.5	6.4	4.2
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.89		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1787	1583		1466		1671	1843		1805	1681	1580
Flt Permitted		0.95	1.00		0.95		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1787	1583		1407		1671	1843		1805	1681	1580
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	364	1	56	2	1	11	70	1287	6	6	348	311
RTOR Reduction (vph)	0	0	39	0	11	0	0	0	0	0	0	90
Lane Group Flow (vph)	0	365	17	0	3	0	70	1293	0	6	348	221
Confl. Bikes (#/hr)									2			1
Heavy Vehicles (%)	1%	100%	2%	50%	0%	10%	8%	3%	0%	0%	13%	1%
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8			7		1	6		5	2	8
Permitted Phases			8	7								2
Actuated Green, G (s)		31.6	31.6		2.4		9.5	51.1		0.9	42.5	74.1
Effective Green, g (s)		31.6	31.6		2.4		9.5	51.1		0.9	42.5	74.1
Actuated g/C Ratio		0.30	0.30		0.02		0.09	0.49		0.01	0.41	0.71
Clearance Time (s)		4.2	4.2		4.0		3.5	6.4		3.5	6.4	4.2
Vehicle Extension (s)		2.5	2.5		3.0		2.0	1.0		2.0	1.0	2.5
Lane Grp Cap (vph)		542	480		32		152	904		15	686	1124
v/s Ratio Prot		c0.20					c0.04	c0.70		0.00	0.21	0.06
v/s Ratio Perm			0.01		c0.00							0.08
v/c Ratio		0.67	0.04		0.10		0.46	1.43		0.40	0.51	0.20
Uniform Delay, d1		31.7	25.5		49.8		44.9	26.5		51.3	23.0	5.0
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		3.0	0.0		1.4		0.8	200.0		6.3	0.2	0.1
Delay (s)		34.7	25.5		51.2		45.7	226.5		57.6	23.2	5.1
Level of Service		C	C		D		D	F		E	C	A
Approach Delay (s)		33.5			51.2			217.3			15.0	
Approach LOS		C			D			F			B	

Intersection Summary			
HCM 2000 Control Delay	130.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	104.1	Sum of lost time (s)	18.1
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	5	16	0	600	604	5
Future Vol, veh/h	5	16	0	600	604	5
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	6	6	0
Mvmt Flow	5	17	0	645	649	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1297	655	655	0	-	0
Stage 1	652	-	-	-	-	-
Stage 2	645	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	180	470	942	-	-	-
Stage 1	522	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	180	469	940	-	-	-
Mov Cap-2 Maneuver	321	-	-	-	-	-
Stage 1	522	-	-	-	-	-
Stage 2	526	-	-	-	-	-

Approach	EB		NB		SB	
HCM Control Delay, s	14		0		0	
HCM LOS	B					

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	940	-	423	-	-
HCM Lane V/C Ratio	-	-	0.053	-	-
HCM Control Delay (s)	0	-	14	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	4	22	578	1	19	601
Future Vol, veh/h	4	22	578	1	19	601
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	325	190	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	18	5	100	11	5
Mvmt Flow	4	24	628	1	21	653

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1323	630	0	0	628	0
Stage 1	628	-	-	-	-	-
Stage 2	695	-	-	-	-	-
Critical Hdwy	6.4	6.38	-	-	4.21	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.462	-	-	2.299	-
Pot Cap-1 Maneuver	174	454	-	-	912	-
Stage 1	536	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	170	453	-	-	910	-
Mov Cap-2 Maneuver	310	-	-	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	487	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.1	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	423	910	-
HCM Lane V/C Ratio	-	-	0.067	0.023	-
HCM Control Delay (s)	-	-	14.1	9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	13	60	513	16	46	552
Future Vol, veh/h	13	60	513	16	46	552
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	350	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	5	6	25	15	5
Mvmt Flow	14	64	546	17	49	587

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1231	548	0	0	546	0
Stage 1	546	-	-	-	-	-
Stage 2	685	-	-	-	-	-
Critical Hdwy	6.4	6.25	-	-	4.25	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.345	-	-	2.335	-
Pot Cap-1 Maneuver	198	530	-	-	961	-
Stage 1	584	-	-	-	-	-
Stage 2	504	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	188	529	-	-	959	-
Mov Cap-2 Maneuver	324	-	-	-	-	-
Stage 1	584	-	-	-	-	-
Stage 2	477	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.1	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	475	959	-
HCM Lane V/C Ratio	-	-	0.163	0.051	-
HCM Control Delay (s)	-	-	14.1	9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	0	111	4	0	3	76	480	4	7	475	67
Future Volume (vph)	50	0	111	4	0	3	76	480	4	7	475	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.94		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1736	1468		1523		1656	1791		1583	1792	1473
Flt Permitted		0.95	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1736	1468		1566		1656	1791		1583	1792	1473
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	0	118	4	0	3	81	511	4	7	505	71
RTOR Reduction (vph)	0	0	93	0	7	0	0	0	0	0	0	38
Lane Group Flow (vph)	0	53	25	0	0	0	81	515	0	7	505	33
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)									2			13
Heavy Vehicles (%)	4%	0%	10%	25%	0%	0%	9%	6%	0%	14%	6%	6%
Turn Type	Split	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4	1		3		1	6		5	2	
Permitted Phases			4	3								2
Actuated Green, G (s)		4.3	12.8		0.7		8.5	35.6		0.7	28.0	28.0
Effective Green, g (s)		4.3	12.8		0.7		8.5	35.6		0.7	28.0	28.0
Actuated g/C Ratio		0.07	0.21		0.01		0.14	0.60		0.01	0.47	0.47
Clearance Time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Vehicle Extension (s)		2.5	2.0		3.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		125	315		18		236	1069		18	841	692
v/s Ratio Prot		c0.03	0.01				c0.05	c0.29		0.00	c0.28	
v/s Ratio Perm			0.01		c0.00							0.02
v/c Ratio		0.42	0.08		0.00		0.34	0.48		0.39	0.60	0.05
Uniform Delay, d1		26.5	18.7		29.1		23.0	6.8		29.2	11.7	8.6
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.7	0.0		0.1		0.3	0.1		5.0	0.8	0.0
Delay (s)		28.1	18.7		29.2		23.4	6.9		34.2	12.5	8.6
Level of Service		C	B		C		C	A		C	B	A
Approach Delay (s)		21.7			29.2			9.1			12.3	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	59.6	Sum of lost time (s)	18.3
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	42	0	14	0	0	3	16	515	1	0	552	38
Future Vol, veh/h	42	0	14	0	0	3	16	515	1	0	552	38
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	124	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	0	7	0	0	0	13	9	0	0	11	8
Mvmt Flow	45	0	15	0	0	3	17	554	1	0	594	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1204	1202	615	1210	1222	555	634	0	0	554	0	0
Stage 1	614	614	-	588	588	-	-	-	-	-	-	-
Stage 2	590	588	-	622	634	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.5	6.27	7.1	6.5	6.2	4.23	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4	3.363	3.5	4	3.3	2.317	-	-	2.2	-	-
Pot Cap-1 Maneuver	161	186	482	161	181	535	898	-	-	1026	-	-
Stage 1	479	486	-	499	499	-	-	-	-	-	-	-
Stage 2	494	499	-	478	476	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	158	182	482	154	178	535	897	-	-	1025	-	-
Mov Cap-2 Maneuver	158	182	-	154	178	-	-	-	-	-	-	-
Stage 1	470	486	-	490	490	-	-	-	-	-	-	-
Stage 2	481	490	-	463	476	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	32.5	11.8	0.3	0
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	897	-	-	190	535	1025	-	-
HCM Lane V/C Ratio	0.019	-	-	0.317	0.006	-	-	-
HCM Control Delay (s)	9.1	-	-	32.5	11.8	0	-	-
HCM Lane LOS	A	-	-	D	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.3	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	0	38	1	0	7	34	375	1	7	396	149
Future Volume (vph)	138	0	38	1	0	7	34	375	1	7	396	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.0		3.5	6.4		3.5	6.4	4.2
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		0.96		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.88		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1736	1495		1600		1703	1743		1805	1727	1539
Flt Permitted		0.95	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1736	1495		1610		1703	1743		1805	1727	1539
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	147	0	40	1	0	7	36	399	1	7	421	159
RTOR Reduction (vph)	0	0	32	0	8	0	0	0	0	0	0	65
Lane Group Flow (vph)	0	147	8	0	0	0	36	400	0	7	421	94
Confl. Peds. (#/hr)	1					1						
Confl. Bikes (#/hr)									5			13
Heavy Vehicles (%)	4%	0%	8%	0%	0%	0%	6%	9%	0%	0%	10%	3%
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8			7		1	6		5	2	8
Permitted Phases			8	7								2
Actuated Green, G (s)		10.6	10.6		0.6		2.1	20.7		0.6	19.2	29.8
Effective Green, g (s)		10.6	10.6		0.6		2.1	20.7		0.6	19.2	29.8
Actuated g/C Ratio		0.21	0.21		0.01		0.04	0.41		0.01	0.38	0.59
Clearance Time (s)		4.2	4.2		4.0		3.5	6.4		3.5	6.4	4.2
Vehicle Extension (s)		2.5	2.5		3.0		2.0	1.0		2.0	1.0	2.5
Lane Grp Cap (vph)		363	313		19		70	713		21	655	906
v/s Ratio Prot		c0.08					c0.02	0.23		0.00	c0.24	0.02
v/s Ratio Perm			0.01		c0.00							0.04
v/c Ratio		0.40	0.03		0.00		0.51	0.56		0.33	0.64	0.10
Uniform Delay, d1		17.3	15.9		24.7		23.8	11.5		24.8	12.9	4.6
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.5	0.0		0.1		2.6	0.6		3.4	1.6	0.0
Delay (s)		17.8	15.9		24.8		26.4	12.1		28.2	14.5	4.6
Level of Service		B	B		C		C	B		C	B	A
Approach Delay (s)		17.4			24.8			13.3			12.0	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	50.6	Sum of lost time (s)	18.1
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	1	17	2	608	1030	7
Future Vol, veh/h	1	17	2	608	1030	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	3	2	86
Mvmt Flow	1	18	2	654	1108	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1769	1111	1115	0	-	0
Stage 1	1111	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	93	257	634	-	-	-
Stage 1	318	-	-	-	-	-
Stage 2	519	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	93	257	634	-	-	-
Mov Cap-2 Maneuver	219	-	-	-	-	-
Stage 1	318	-	-	-	-	-
Stage 2	516	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	634	-	255	-	-
HCM Lane V/C Ratio	0.003	-	0.076	-	-
HCM Control Delay (s)	10.7	0	20.3	-	-
HCM Lane LOS	B	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	4	20	590	0	23	1024
Future Vol, veh/h	4	20	590	0	23	1024
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	325	190	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	5	3	0	9	2
Mvmt Flow	4	22	648	0	25	1125

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1824	648	0	0	648	0
Stage 1	648	-	-	-	-	-
Stage 2	1176	-	-	-	-	-
Critical Hdwy	6.4	6.25	-	-	4.19	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.345	-	-	2.281	-
Pot Cap-1 Maneuver	86	465	-	-	905	-
Stage 1	524	-	-	-	-	-
Stage 2	296	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	84	465	-	-	905	-
Mov Cap-2 Maneuver	204	-	-	-	-	-
Stage 1	524	-	-	-	-	-
Stage 2	288	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.1	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	383	905	-
HCM Lane V/C Ratio	-	-	0.069	0.028	-
HCM Control Delay (s)	-	-	15.1	9.1	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	45	86	502	13	19	987
Future Vol, veh/h	45	86	502	13	19	987
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	350	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	4	7	2	23	5	2
Mvmt Flow	49	95	552	14	21	1085

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1678	552	0	0	552	0
Stage 1	552	-	-	-	-	-
Stage 2	1126	-	-	-	-	-
Critical Hdwy	6.44	6.27	-	-	4.15	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.363	-	-	2.245	-
Pot Cap-1 Maneuver	103	524	-	-	1003	-
Stage 1	573	-	-	-	-	-
Stage 2	307	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	101	524	-	-	1003	-
Mov Cap-2 Maneuver	220	-	-	-	-	-
Stage 1	573	-	-	-	-	-
Stage 2	301	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.9	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	355	1003	-
HCM Lane V/C Ratio	-	-	0.406	0.021	-
HCM Control Delay (s)	-	-	21.9	8.7	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.9	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	1	280	5	0	2	64	503	4	2	1074	28
Future Volume (vph)	48	1	280	5	0	2	64	503	4	2	1074	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.97		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.96		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1710	1568		1770		1719	1861		1805	1863	1459
Flt Permitted		0.95	1.00		0.96		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1710	1568		1770		1719	1861		1805	1863	1459
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	54	1	315	6	0	2	72	565	4	2	1207	31
RTOR Reduction (vph)	0	0	263	0	8	0	0	0	0	0	0	12
Lane Group Flow (vph)	0	55	52	0	0	0	72	569	0	2	1207	19
Confl. Bikes (#/hr)									4			7
Heavy Vehicles (%)	6%	0%	3%	0%	0%	0%	5%	2%	0%	0%	2%	8%
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4	1	3	3		1	6		5	2	
Permitted Phases			4									2
Actuated Green, G (s)		6.4	14.4		0.9		8.0	60.8		0.8	53.8	53.8
Effective Green, g (s)		6.4	14.4		0.9		8.0	60.8		0.8	53.8	53.8
Actuated g/C Ratio		0.07	0.17		0.01		0.09	0.70		0.01	0.62	0.62
Clearance Time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Vehicle Extension (s)		2.5	2.0		3.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		125	258		18		157	1297		16	1149	900
v/s Ratio Prot		c0.03	0.02		c0.00		c0.04	0.31		0.00	c0.65	
v/s Ratio Perm			0.01									0.01
v/c Ratio		0.44	0.20		0.00		0.46	0.44		0.12	1.05	0.02
Uniform Delay, d1		38.7	31.4		42.7		37.5	5.8		42.9	16.7	6.5
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.8	0.1		0.1		0.8	0.1		1.3	40.8	0.0
Delay (s)		40.5	31.6		42.8		38.3	5.8		44.1	57.5	6.5
Level of Service		D	C		D		D	A		D	E	A
Approach Delay (s)		32.9			42.8			9.5			56.2	
Approach LOS		C			D			A			E	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	87.2	Sum of lost time (s)	18.3
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	46	0	12	1	0	1	18	524	1	0	1287	72
Future Vol, veh/h	46	0	12	1	0	1	18	524	1	0	1287	72
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	124	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	4	0	0	0	0	0	6	2	0	0	2	3
Mvmt Flow	47	0	12	1	0	1	19	540	1	0	1327	74

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1942	1941	1364	1947	1978	540	1401	0	0	540	0	0
Stage 1	1364	1364	-	577	577	-	-	-	-	-	-	-
Stage 2	578	577	-	1370	1401	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.5	6.2	7.1	6.5	6.2	4.16	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4	3.3	3.5	4	3.3	2.254	-	-	2.2	-	-
Pot Cap-1 Maneuver	48	66	182	49	63	546	475	-	-	1039	-	-
Stage 1	180	218	-	506	505	-	-	-	-	-	-	-
Stage 2	498	505	-	183	209	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 46	63	182	44	60	546	475	-	-	1039	-	-
Mov Cap-2 Maneuver	~ 46	63	-	44	60	-	-	-	-	-	-	-
Stage 1	173	218	-	486	485	-	-	-	-	-	-	-
Stage 2	477	485	-	171	209	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	279.7	50.6	0.4	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	475	-	-	54	81	1039	-	-
HCM Lane V/C Ratio	0.039	-	-	1.107	0.025	-	-	-
HCM Control Delay (s)	12.9	-	-	279.7	50.6	0	-	-
HCM Lane LOS	B	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	5.1	0.1	0	-	-

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	1	43	2	1	15	29	400	1	0	1120	170
Future Volume (vph)	121	1	43	2	1	15	29	400	1	0	1120	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.0		3.5	6.4			6.4	4.2
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.89		1.00	1.00			1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1775	1583		1510		1805	1822			1881	1565
Flt Permitted		0.95	1.00		0.94		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1775	1583		1431		1805	1822			1881	1565
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	129	1	46	2	1	16	31	426	1	0	1191	181
RTOR Reduction (vph)	0	0	41	0	16	0	0	0	0	0	0	14
Lane Group Flow (vph)	0	130	5	0	3	0	31	427	0	0	1191	167
Confl. Peds. (#/hr)							1					1
Confl. Bikes (#/hr)									3			2
Heavy Vehicles (%)	2%	0%	2%	0%	0%	13%	0%	4%	100%	0%	1%	1%
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8			7		1	6		5	2	8
Permitted Phases			8	7								2
Actuated Green, G (s)		14.9	14.9		3.8		5.8	105.2			95.9	110.8
Effective Green, g (s)		14.9	14.9		3.8		5.8	105.2			95.9	110.8
Actuated g/C Ratio		0.11	0.11		0.03		0.04	0.76			0.69	0.80
Clearance Time (s)		4.2	4.2		4.0		3.5	6.4			6.4	4.2
Vehicle Extension (s)		2.5	2.5		3.0		2.0	1.0			1.0	2.5
Lane Grp Cap (vph)		190	170		39		75	1383			1302	1252
v/s Ratio Prot		c0.07					c0.02	0.23			c0.63	0.01
v/s Ratio Perm			0.00		c0.00							0.09
v/c Ratio		0.68	0.03		0.09		0.41	0.31			0.91	0.13
Uniform Delay, d1		59.5	55.3		65.7		64.7	5.2			17.9	3.1
Progression Factor		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		9.0	0.1		1.0		1.3	0.0			9.9	0.0
Delay (s)		68.5	55.4		66.6		66.0	5.3			27.8	3.1
Level of Service		E	E		E		E	A			C	A
Approach Delay (s)		65.1			66.6			9.4			24.5	
Approach LOS		E			E			A			C	

Intersection Summary			
HCM 2000 Control Delay	25.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	138.5	Sum of lost time (s)	18.1
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	0	4	1367	697	4
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	3	5	0
Mvmt Flow	1	0	4	1439	734	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2183	737	738	0	-	0
Stage 1	736	-	-	-	-	-
Stage 2	1447	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	51	422	877	-	-	-
Stage 1	477	-	-	-	-	-
Stage 2	219	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	50	422	876	-	-	-
Mov Cap-2 Maneuver	154	-	-	-	-	-
Stage 1	477	-	-	-	-	-
Stage 2	214	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.5	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	876	-	154	-	-
HCM Lane V/C Ratio	0.005	-	0.007	-	-
HCM Control Delay (s)	9.1	0	28.5	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	51	1319	29	74	625
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	325	190	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	7
Mvmt Flow	0	54	1388	31	78	658

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2202	1388	0	0	1388	0
Stage 1	1388	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Critical Hdwy	6.4	6.26	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.354	-	-	2.2	-
Pot Cap-1 Maneuver	50	171	-	-	500	-
Stage 1	234	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	42	171	-	-	500	-
Mov Cap-2 Maneuver	149	-	-	-	-	-
Stage 1	234	-	-	-	-	-
Stage 2	371	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	35.4	0	1.4
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	171	500	-
HCM Lane V/C Ratio	-	-	0.314	0.156	-
HCM Control Delay (s)	-	-	35.4	13.5	-
HCM Lane LOS	-	-	E	B	-
HCM 95th %tile Q(veh)	-	-	1.3	0.5	-

Intersection						
Int Delay, s/veh	1.2					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	3	22	1324	59	112	510
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	350	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	2	3	3	5
Mvmt Flow	3	23	1394	62	118	537

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2167	1394	0	0	1394	0
Stage 1	1394	-	-	-	-	-
Stage 2	773	-	-	-	-	-
Critical Hdwy	6.4	6.29	-	-	4.13	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.381	-	-	2.227	-
Pot Cap-1 Maneuver	52	167	-	-	487	-
Stage 1	232	-	-	-	-	-
Stage 2	459	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	39	167	-	-	487	-
Mov Cap-2 Maneuver	144	-	-	-	-	-
Stage 1	232	-	-	-	-	-
Stage 2	348	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.1	0	2.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	164	487	-
HCM Lane V/C Ratio	-	-	0.16	0.242	-
HCM Control Delay (s)	-	-	31.1	14.7	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.6	0.9	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	27	0	111	0	0	1	215	1359	1	2	498	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.86		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1626	1455		822		1770	1863		1805	1792	1423
Flt Permitted		0.95	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1626	1455		822		1770	1863		1805	1792	1423
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	0	121	0	0	1	234	1477	1	2	541	58
RTOR Reduction (vph)	0	0	77	0	1	0	0	0	0	0	0	32
Lane Group Flow (vph)	0	29	44	0	0	0	234	1478	0	2	541	26
Confl. Bikes (#/hr)									4			2
Heavy Vehicles (%)	11%	0%	11%	0%	0%	100%	2%	2%	0%	0%	6%	11%
Turn Type	Split	NA	pm+ov		NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4	1		3		1	6		5	2	
Permitted Phases			4	3								2
Actuated Green, G (s)		4.0	29.0		0.8		25.0	56.5		0.7	32.4	32.4
Effective Green, g (s)		4.0	29.0		0.8		25.0	56.5		0.7	32.4	32.4
Actuated g/C Ratio		0.05	0.36		0.01		0.31	0.70		0.01	0.40	0.40
Clearance Time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Vehicle Extension (s)		2.5	2.0		3.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		80	525		8		551	1310		15	723	574
v/s Ratio Prot		c0.02	0.03		c0.00		c0.13	c0.79		0.00	0.30	
v/s Ratio Perm			0.00									0.02
v/c Ratio		0.36	0.08		0.00		0.42	1.13		0.13	0.75	0.05
Uniform Delay, d1		36.9	16.9		39.4		21.9	11.9		39.5	20.5	14.6
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		2.0	0.0		0.1		0.2	68.0		1.5	3.7	0.0
Delay (s)		38.9	16.9		39.4		22.1	79.9		41.0	24.2	14.6
Level of Service		D	B		D		C	E		D	C	B
Approach Delay (s)		21.2			39.4			72.0			23.3	
Approach LOS		C			D			E			C	

Intersection Summary			
HCM 2000 Control Delay	57.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	80.3	Sum of lost time (s)	18.3
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	49.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	68	0	27	1	0	2	16	1505	2	0	583	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	124	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	4	0	4	0	0	0	0	2	50	0	8	35
Mvmt Flow	74	0	29	1	0	2	17	1636	2	0	634	28

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2320	2319	649	2334	2333	1637	662	0	0	1636	0	0
Stage 1	648	648	-	1671	1671	-	-	-	-	-	-	-
Stage 2	1672	1671	-	663	662	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.5	6.24	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4	3.336	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 26	38	466	26	37	126	936	-	-	402	-	-
Stage 1	456	469	-	123	154	-	-	-	-	-	-	-
Stage 2	120	154	-	454	462	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 25	37	466	24	36	126	935	-	-	402	-	-
Mov Cap-2 Maneuver	~ 25	37	-	24	36	-	-	-	-	-	-	-
Stage 1	448	469	-	121	151	-	-	-	-	-	-	-
Stage 2	116	151	-	425	462	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 1164.9	78.8	0.1	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	935	-	-	34	52	402	-	-
HCM Lane V/C Ratio	0.019	-	-	3.037	0.063	-	-	-
HCM Control Delay (s)	8.9	-	-	$ 1164.9	78.8	0	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	11.9	0.2	0	-	-

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	334	1	51	2	1	10	61	1166	5	5	328	287
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.0		3.5	6.4		3.5	6.4	4.2
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.89		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1787	1583		1466		1671	1844		1805	1681	1580
Flt Permitted		0.95	1.00		0.95		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1787	1583		1407		1671	1844		1805	1681	1580
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	363	1	55	2	1	11	66	1267	5	5	357	312
RTOR Reduction (vph)	0	0	38	0	11	0	0	0	0	0	0	85
Lane Group Flow (vph)	0	364	17	0	3	0	66	1272	0	5	357	227
Confl. Bikes (#/hr)									2			1
Heavy Vehicles (%)	1%	100%	2%	50%	0%	10%	8%	3%	0%	0%	13%	1%
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8			7		1	6		5	2	8
Permitted Phases			8	7								2
Actuated Green, G (s)		31.6	31.6		2.4		7.9	51.1		0.9	44.1	75.7
Effective Green, g (s)		31.6	31.6		2.4		7.9	51.1		0.9	44.1	75.7
Actuated g/C Ratio		0.30	0.30		0.02		0.08	0.49		0.01	0.42	0.73
Clearance Time (s)		4.2	4.2		4.0		3.5	6.4		3.5	6.4	4.2
Vehicle Extension (s)		2.5	2.5		3.0		2.0	1.0		2.0	1.0	2.5
Lane Grp Cap (vph)		542	480		32		126	905		15	712	1148
v/s Ratio Prot		c0.20					c0.04	c0.69		0.00	0.21	0.06
v/s Ratio Perm			0.01		c0.00							0.08
v/c Ratio		0.67	0.03		0.10		0.52	1.41		0.33	0.50	0.20
Uniform Delay, d1		31.7	25.5		49.8		46.3	26.5		51.3	22.0	4.5
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		3.0	0.0		1.4		1.8	189.1		4.7	0.2	0.1
Delay (s)		34.7	25.5		51.2		48.1	215.6		56.0	22.2	4.6
Level of Service		C	C		D		D	F		E	C	A
Approach Delay (s)		33.5			51.2			207.4			14.3	
Approach LOS		C			D			F			B	

Intersection Summary			
HCM 2000 Control Delay	123.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	104.1	Sum of lost time (s)	18.1
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	6	19	0	741	766	5
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	6	6	0
Mvmt Flow	6	20	0	797	824	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1623	829	829	0	-	0
Stage 1	826	-	-	-	-	-
Stage 2	797	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	114	374	811	-	-	-
Stage 1	433	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	114	373	809	-	-	-
Mov Cap-2 Maneuver	253	-	-	-	-	-
Stage 1	433	-	-	-	-	-
Stage 2	447	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	809	-	335	-	-
HCM Lane V/C Ratio	-	-	0.08	-	-
HCM Control Delay (s)	0	-	16.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	31	95	646	7	76	711
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	325	190	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	18	5	100	11	5
Mvmt Flow	34	103	702	8	83	773

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1640	704	0	0	702	0
Stage 1	702	-	-	-	-	-
Stage 2	938	-	-	-	-	-
Critical Hdwy	6.4	6.38	-	-	4.21	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.462	-	-	2.299	-
Pot Cap-1 Maneuver	111	411	-	-	855	-
Stage 1	495	-	-	-	-	-
Stage 2	384	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	100	410	-	-	854	-
Mov Cap-2 Maneuver	230	-	-	-	-	-
Stage 1	495	-	-	-	-	-
Stage 2	346	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.2	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	344	854	-
HCM Lane V/C Ratio	-	-	0.398	0.097	-
HCM Control Delay (s)	-	-	22.2	9.7	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.9	0.3	-

Intersection						
Int Delay, s/veh	1.1					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	13	60	589	16	46	689
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	350	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	5	6	25	15	5
Mvmt Flow	14	64	627	17	49	733

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1458	629	0	0	627	0
Stage 1	627	-	-	-	-	-
Stage 2	831	-	-	-	-	-
Critical Hdwy	6.4	6.25	-	-	4.25	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.345	-	-	2.335	-
Pot Cap-1 Maneuver	144	477	-	-	895	-
Stage 1	536	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	136	476	-	-	894	-
Mov Cap-2 Maneuver	272	-	-	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	407	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.5	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	420	894	-
HCM Lane V/C Ratio	-	-	0.185	0.055	-
HCM Control Delay (s)	-	-	15.5	9.3	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	0	142	4	0	3	81	552	4	7	613	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.94		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1736	1468		1523		1656	1791		1583	1792	1474
Flt Permitted		0.95	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1736	1468		1566		1656	1791		1583	1792	1474
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	57	0	151	4	0	3	86	587	4	7	652	71
RTOR Reduction (vph)	0	0	116	0	7	0	0	0	0	0	0	36
Lane Group Flow (vph)	0	57	35	0	0	0	86	591	0	7	652	35
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)									2			13
Heavy Vehicles (%)	4%	0%	10%	25%	0%	0%	9%	6%	0%	14%	6%	6%
Turn Type	Split	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4	1		3		1	6		5	2	
Permitted Phases			4	3								2
Actuated Green, G (s)		6.4	16.0		0.7		9.6	42.7		0.7	34.0	34.0
Effective Green, g (s)		6.4	16.0		0.7		9.6	42.7		0.7	34.0	34.0
Actuated g/C Ratio		0.09	0.23		0.01		0.14	0.62		0.01	0.49	0.49
Clearance Time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Vehicle Extension (s)		2.5	2.0		3.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		161	341		15		231	1111		16	885	728
v/s Ratio Prot		c0.03	0.01				c0.05	c0.33		0.00	c0.36	
v/s Ratio Perm			0.01		c0.00							0.02
v/c Ratio		0.35	0.10		0.00		0.37	0.53		0.44	0.74	0.05
Uniform Delay, d1		29.3	20.8		33.7		26.9	7.4		33.9	13.8	9.0
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.0	0.0		0.1		0.4	0.2		6.8	2.8	0.0
Delay (s)		30.2	20.8		33.8		27.2	7.6		40.7	16.6	9.0
Level of Service		C	C		C		C	A		D	B	A
Approach Delay (s)		23.4			33.8			10.1			16.1	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	18.3
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	42	0	14	0	0	3	16	593	1	0	721	38
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	124	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	0	7	0	0	0	13	9	0	0	11	8
Mvmt Flow	45	0	15	0	0	3	17	638	1	0	775	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1470	1468	797	1475	1488	639	816	0	0	638	0	0
Stage 1	796	796	-	672	672	-	-	-	-	-	-	-
Stage 2	674	672	-	803	816	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.5	6.27	7.1	6.5	6.2	4.23	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4	3.363	3.5	4	3.3	2.317	-	-	2.2	-	-
Pot Cap-1 Maneuver	105	129	379	106	125	480	766	-	-	956	-	-
Stage 1	380	402	-	449	458	-	-	-	-	-	-	-
Stage 2	444	458	-	380	393	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	102	126	379	100	122	480	765	-	-	955	-	-
Mov Cap-2 Maneuver	102	126	-	100	122	-	-	-	-	-	-	-
Stage 1	372	402	-	439	448	-	-	-	-	-	-	-
Stage 2	431	448	-	365	393	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	58	12.6	0.3	0
HCM LOS	F	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	765	-	-	125	480	955	-	-
HCM Lane V/C Ratio	0.022	-	-	0.482	0.007	-	-	-
HCM Control Delay (s)	9.8	-	-	58	12.6	0	-	-
HCM Lane LOS	A	-	-	F	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.2	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	161	0	46	1	0	7	36	430	1	7	535	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.0		3.5	6.4		3.5	6.4	4.2
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		0.96		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.88		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1736	1495		1591		1703	1743		1805	1727	1539
Flt Permitted		0.95	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1736	1495		1601		1703	1743		1805	1727	1539
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	171	0	49	1	0	7	38	457	1	7	569	193
RTOR Reduction (vph)	0	0	39	0	8	0	0	0	0	0	0	68
Lane Group Flow (vph)	0	171	10	0	0	0	38	458	0	7	569	125
Confl. Peds. (#/hr)	1					1						
Confl. Bikes (#/hr)									5			13
Heavy Vehicles (%)	4%	0%	8%	0%	0%	0%	6%	9%	0%	0%	10%	3%
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8			7		1	6		5	2	8
Permitted Phases			8	7								2
Actuated Green, G (s)		13.2	13.2		0.6		3.6	30.9		0.7	28.0	41.2
Effective Green, g (s)		13.2	13.2		0.6		3.6	30.9		0.7	28.0	41.2
Actuated g/C Ratio		0.21	0.21		0.01		0.06	0.49		0.01	0.44	0.65
Clearance Time (s)		4.2	4.2		4.0		3.5	6.4		3.5	6.4	4.2
Vehicle Extension (s)		2.5	2.5		3.0		2.0	1.0		2.0	1.0	2.5
Lane Grp Cap (vph)		360	310		15		96	848		19	761	998
v/s Ratio Prot		c0.10					c0.02	c0.26		0.00	c0.33	0.03
v/s Ratio Perm			0.01		c0.00							0.06
v/c Ratio		0.47	0.03		0.01		0.40	0.54		0.37	0.75	0.13
Uniform Delay, d1		22.1	20.1		31.2		28.9	11.4		31.2	14.8	4.3
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.7	0.0		0.1		1.0	0.4		4.4	3.5	0.0
Delay (s)		22.8	20.1		31.3		29.9	11.7		35.5	18.3	4.3
Level of Service		C	C		C		C	B		D	B	A
Approach Delay (s)		22.2			31.3			13.1			15.0	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	63.5	Sum of lost time (s)	18.1
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	20	2	749	1192	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	3	2	86
Mvmt Flow	1	22	2	805	1282	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2095	1285	1289	0	-	0
Stage 1	1285	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	58	203	545	-	-	-
Stage 1	262	-	-	-	-	-
Stage 2	441	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	58	203	545	-	-	-
Mov Cap-2 Maneuver	174	-	-	-	-	-
Stage 1	262	-	-	-	-	-
Stage 2	438	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.2	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	545	-	201	-	-
HCM Lane V/C Ratio	0.004	-	0.112	-	-
HCM Control Delay (s)	11.6	0	25.2	-	-
HCM Lane LOS	B	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	36	88	664	0	85	1129
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	325	190	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	5	3	0	9	2
Mvmt Flow	39	96	722	0	92	1227

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2134	722	0	0	722	0
Stage 1	722	-	-	-	-	-
Stage 2	1412	-	-	-	-	-
Critical Hdwy	6.4	6.25	-	-	4.19	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.345	-	-	2.281	-
Pot Cap-1 Maneuver	55	422	-	-	849	-
Stage 1	485	-	-	-	-	-
Stage 2	227	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	49	422	-	-	849	-
Mov Cap-2 Maneuver	148	-	-	-	-	-
Stage 1	485	-	-	-	-	-
Stage 2	202	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	30.2	0	0.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	274	849	-
HCM Lane V/C Ratio	-	-	0.492	0.109	-
HCM Control Delay (s)	-	-	30.2	9.8	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	2.5	0.4	-

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	45	86	578	13	19	1125
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	350	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	7	2	23	5	2
Mvmt Flow	49	93	628	14	21	1223

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1892	628	0	0	628	0
Stage 1	628	-	-	-	-	-
Stage 2	1264	-	-	-	-	-
Critical Hdwy	6.44	6.27	-	-	4.15	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.363	-	-	2.245	-
Pot Cap-1 Maneuver	76	474	-	-	940	-
Stage 1	528	-	-	-	-	-
Stage 2	263	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	74	474	-	-	940	-
Mov Cap-2 Maneuver	187	-	-	-	-	-
Stage 1	528	-	-	-	-	-
Stage 2	257	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.1	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	310	940	-
HCM Lane V/C Ratio	-	-	0.459	0.022	-
HCM Control Delay (s)	-	-	26.1	8.9	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	2.3	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	1	312	5	0	2	68	577	4	2	1212	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.96		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1710	1568		1764		1719	1861		1805	1863	1459
Flt Permitted		0.95	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1710	1568		1764		1719	1861		1805	1863	1459
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	1	339	5	0	2	74	627	4	2	1317	32
RTOR Reduction (vph)	0	0	282	0	7	0	0	0	0	0	0	12
Lane Group Flow (vph)	0	58	57	0	0	0	74	631	0	2	1317	20
Confl. Bikes (#/hr)									4			7
Heavy Vehicles (%)	6%	0%	3%	0%	0%	0%	5%	2%	0%	0%	2%	8%
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4	1	3	3		1	6		5	2	
Permitted Phases			4									2
Actuated Green, G (s)		6.5	14.6		0.9		8.1	60.9		0.8	53.8	53.8
Effective Green, g (s)		6.5	14.6		0.9		8.1	60.9		0.8	53.8	53.8
Actuated g/C Ratio		0.07	0.17		0.01		0.09	0.70		0.01	0.62	0.62
Clearance Time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Vehicle Extension (s)		2.5	2.0		3.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		127	261		18		159	1296		16	1146	898
v/s Ratio Prot		c0.03	0.02		c0.00		c0.04	0.34		0.00	c0.71	
v/s Ratio Perm			0.02									0.01
v/c Ratio		0.46	0.22		0.00		0.47	0.49		0.12	1.15	0.02
Uniform Delay, d1		38.8	31.5		42.8		37.6	6.1		43.0	16.8	6.5
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.9	0.2		0.1		0.8	0.1		1.3	77.6	0.0
Delay (s)		40.6	31.6		42.9		38.4	6.2		44.2	94.4	6.6
Level of Service		D	C		D		D	A		D	F	A
Approach Delay (s)		32.9			42.9			9.6			92.3	
Approach LOS		C			D			A			F	

Intersection Summary			
HCM 2000 Control Delay	58.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	87.4	Sum of lost time (s)	18.3
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	14.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	46	0	12	1	0	1	18	602	1	0	1457	72
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	124	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	4	0	0	0	0	0	6	2	0	0	2	3
Mvmt Flow	47	0	12	1	0	1	19	621	1	0	1502	74

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2197	2197	1539	2203	2234	621	1576	0	0	621	0	0
Stage 1	1539	1539	-	658	658	-	-	-	-	-	-	-
Stage 2	658	658	-	1545	1576	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.5	6.2	7.1	6.5	6.2	4.16	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4	3.3	3.5	4	3.3	2.254	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 32	46	144	32	43	491	407	-	-	969	-	-
Stage 1	143	179	-	457	464	-	-	-	-	-	-	-
Stage 2	450	464	-	145	172	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 31	44	144	28	41	491	407	-	-	969	-	-
Mov Cap-2 Maneuver	~ 31	44	-	28	41	-	-	-	-	-	-	-
Stage 1	136	179	-	436	442	-	-	-	-	-	-	-
Stage 2	428	442	-	133	172	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 540.9	75.7	0.4	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	407	-	-	37	53	969	-	-
HCM Lane V/C Ratio	0.046	-	-	1.616	0.039	-	-	-
HCM Control Delay (s)	14.3	-	-	$ 540.9	75.7	0	-	-
HCM Lane LOS	B	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	6.4	0.1	0	-	-

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	145	1	50	2	1	15	34	454	1	0	1259	199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.0		3.5	6.4			6.4	4.2
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.89		1.00	1.00			1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1775	1583		1510		1805	1823			1881	1566
Flt Permitted		0.95	1.00		0.94		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1775	1583		1425		1805	1823			1881	1566
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	154	1	53	2	1	16	36	483	1	0	1339	212
RTOR Reduction (vph)	0	0	47	0	16	0	0	0	0	0	0	15
Lane Group Flow (vph)	0	155	6	0	3	0	36	484	0	0	1339	197
Confl. Peds. (#/hr)							1					1
Confl. Bikes (#/hr)									3			2
Heavy Vehicles (%)	2%	0%	2%	0%	0%	13%	0%	4%	100%	0%	1%	1%
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8			7		1	6		5	2	8
Permitted Phases			8	7								2
Actuated Green, G (s)		17.2	17.2		3.8		6.2	105.8			96.1	113.3
Effective Green, g (s)		17.2	17.2		3.8		6.2	105.8			96.1	113.3
Actuated g/C Ratio		0.12	0.12		0.03		0.04	0.75			0.68	0.80
Clearance Time (s)		4.2	4.2		4.0		3.5	6.4			6.4	4.2
Vehicle Extension (s)		2.5	2.5		3.0		2.0	1.0			1.0	2.5
Lane Grp Cap (vph)		215	192		38		79	1364			1278	1254
v/s Ratio Prot		c0.09					c0.02	0.27			c0.71	0.02
v/s Ratio Perm			0.00		c0.00							0.11
v/c Ratio		0.72	0.03		0.09		0.46	0.35			1.05	0.16
Uniform Delay, d1		59.8	54.8		67.1		66.0	6.1			22.7	3.2
Progression Factor		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		10.6	0.1		1.0		1.5	0.1			38.7	0.0
Delay (s)		70.4	54.8		68.1		67.5	6.2			61.3	3.2
Level of Service		E	D		E		E	A			E	A
Approach Delay (s)		66.4			68.1			10.4			53.4	
Approach LOS		E			E			B			D	

Intersection Summary			
HCM 2000 Control Delay	45.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	141.4	Sum of lost time (s)	18.1
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Future AM

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	1	0	4	1439	776	4
Future Vol, veh/h	1	0	4	1439	776	4
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	3	5	0
Mvmt Flow	1	0	4	1515	817	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2342	820	821	0	-	0
Stage 1	819	-	-	-	-	-
Stage 2	1523	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	41	378	817	-	-	-
Stage 1	437	-	-	-	-	-
Stage 2	201	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	40	378	816	-	-	-
Mov Cap-2 Maneuver	138	-	-	-	-	-
Stage 1	437	-	-	-	-	-
Stage 2	195	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	31.3	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	816	-	138	-	-
HCM Lane V/C Ratio	0.005	-	0.008	-	-
HCM Control Delay (s)	9.4	0	31.3	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	0	84	1359	50	110	666
Future Vol, veh/h	0	84	1359	50	110	666
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	325	190	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	6	3	0	0	7
Mvmt Flow	0	88	1431	53	116	701

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2364	1431	0	0	1431	0
Stage 1	1431	-	-	-	-	-
Stage 2	933	-	-	-	-	-
Critical Hdwy	6.4	6.26	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.354	-	-	2.2	-
Pot Cap-1 Maneuver	39	161	-	-	481	-
Stage 1	223	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	30	161	-	-	481	-
Mov Cap-2 Maneuver	129	-	-	-	-	-
Stage 1	223	-	-	-	-	-
Stage 2	293	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	51.7	0	2.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	161	481	-
HCM Lane V/C Ratio	-	-	0.549	0.241	-
HCM Control Delay (s)	-	-	51.7	14.8	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	2.8	0.9	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	3	22	1386	59	112	551
Future Vol, veh/h	3	22	1386	59	112	551
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	350	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	2	3	3	5
Mvmt Flow	3	23	1459	62	118	580

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2275	1459	0	0	1459	0
Stage 1	1459	-	-	-	-	-
Stage 2	816	-	-	-	-	-
Critical Hdwy	6.4	6.29	-	-	4.13	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.381	-	-	2.227	-
Pot Cap-1 Maneuver	45	153	-	-	460	-
Stage 1	216	-	-	-	-	-
Stage 2	438	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	33	153	-	-	460	-
Mov Cap-2 Maneuver	133	-	-	-	-	-
Stage 1	216	-	-	-	-	-
Stage 2	326	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	34	0	2.6
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	150	460	-
HCM Lane V/C Ratio	-	-	0.175	0.256	-
HCM Control Delay (s)	-	-	34	15.5	-
HCM Lane LOS	-	-	D	C	-
HCM 95th %tile Q(veh)	-	-	0.6	1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	0	112	0	0	1	215	1421	1	2	538	54
Future Volume (vph)	27	0	112	0	0	1	215	1421	1	2	538	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.86		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1626	1455		822		1770	1863		1805	1792	1423
Flt Permitted		0.95	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1626	1455		822		1770	1863		1805	1792	1423
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	0	122	0	0	1	234	1545	1	2	585	59
RTOR Reduction (vph)	0	0	82	0	1	0	0	0	0	0	0	27
Lane Group Flow (vph)	0	29	40	0	0	0	234	1546	0	2	585	32
Confl. Bikes (#/hr)									4			2
Heavy Vehicles (%)	11%	0%	11%	0%	0%	100%	2%	2%	0%	0%	6%	11%
Turn Type	Split	NA	pm+ov		NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4	1		3		1	6		5	2	
Permitted Phases			4	3								2
Actuated Green, G (s)		4.0	28.8		0.8		24.8	62.9		0.8	39.1	39.1
Effective Green, g (s)		4.0	28.8		0.8		24.8	62.9		0.8	39.1	39.1
Actuated g/C Ratio		0.05	0.33		0.01		0.29	0.72		0.01	0.45	0.45
Clearance Time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Vehicle Extension (s)		2.5	2.0		3.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		74	482		7		505	1350		16	807	641
v/s Ratio Prot		c0.02	0.02		c0.00		c0.13	c0.83		0.00	0.33	
v/s Ratio Perm			0.00									0.02
v/c Ratio		0.39	0.08		0.00		0.46	1.15		0.12	0.72	0.05
Uniform Delay, d1		40.2	19.9		42.6		25.5	11.9		42.7	19.5	13.4
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		2.5	0.0		0.1		0.2	74.6		1.3	2.8	0.0
Delay (s)		42.7	20.0		42.7		25.8	86.5		43.9	22.2	13.4
Level of Service		D	B		D		C	F		D	C	B
Approach Delay (s)		24.3			42.7			78.5			21.5	
Approach LOS		C			D			E			C	

Intersection Summary			
HCM 2000 Control Delay	61.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	86.8	Sum of lost time (s)	18.3
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		

c	Critical Lane Group

Intersection	
Int Delay, s/veh	58.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	68	0	27	1	0	2	16	1567	2	0	624	26
Future Vol, veh/h	68	0	27	1	0	2	16	1567	2	0	624	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	124	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	4	0	4	0	0	0	0	2	50	0	8	35
Mvmt Flow	74	0	29	1	0	2	17	1703	2	0	678	28

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2431	2430	693	2445	2445	1704	707	0	0	1703	0	0
Stage 1	692	692	-	1738	1738	-	-	-	-	-	-	-
Stage 2	1739	1738	-	707	707	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.5	6.24	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4	3.336	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 22	32	440	22	32	115	901	-	-	379	-	-
Stage 1	431	448	-	112	143	-	-	-	-	-	-	-
Stage 2	109	143	-	429	441	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 21	31	440	20	31	115	900	-	-	379	-	-
Mov Cap-2 Maneuver	~ 21	31	-	20	31	-	-	-	-	-	-	-
Stage 1	423	448	-	110	140	-	-	-	-	-	-	-
Stage 2	105	140	-	400	441	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 1433.9	91.2	0.1	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	900	-	-	29	45	379	-	-
HCM Lane V/C Ratio	0.019	-	-	3.561	0.072	-	-	-
HCM Control Delay (s)	9.1	-	-	$ 1433.9	91.2	0	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	12.4	0.2	0	-	-

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	350	1	52	2	1	10	61	1211	5	5	352	302
Future Volume (vph)	350	1	52	2	1	10	61	1211	5	5	352	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.0		3.5	6.4		3.5	6.4	4.2
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.89		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1787	1583		1466		1671	1844		1805	1681	1582
Flt Permitted		0.95	1.00		0.91		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1787	1583		1350		1671	1844		1805	1681	1582
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	380	1	57	2	1	11	66	1316	5	5	383	328
RTOR Reduction (vph)	0	0	38	0	11	0	0	0	0	0	0	90
Lane Group Flow (vph)	0	381	19	0	3	0	66	1321	0	5	383	238
Confl. Bikes (#/hr)									2			1
Heavy Vehicles (%)	1%	100%	2%	50%	0%	10%	8%	3%	0%	0%	13%	1%
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8			7		1	6		5	2	8
Permitted Phases			8	7								2
Actuated Green, G (s)		37.1	37.1		2.5		9.5	51.0		0.9	42.4	79.5
Effective Green, g (s)		37.1	37.1		2.5		9.5	51.0		0.9	42.4	79.5
Actuated g/C Ratio		0.34	0.34		0.02		0.09	0.47		0.01	0.39	0.73
Clearance Time (s)		4.2	4.2		4.0		3.5	6.4		3.5	6.4	4.2
Vehicle Extension (s)		2.5	2.5		3.0		2.0	1.0		2.0	1.0	2.5
Lane Grp Cap (vph)		604	535		30		144	858		14	650	1147
v/s Ratio Prot		c0.21					c0.04	c0.72		0.00	0.23	0.07
v/s Ratio Perm			0.01		c0.00							0.08
v/c Ratio		0.63	0.04		0.11		0.46	1.54		0.36	0.59	0.21
Uniform Delay, d1		30.5	24.3		52.5		47.6	29.3		54.1	26.7	4.9
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.9	0.0		1.6		0.8	248.7		5.6	0.9	0.1
Delay (s)		32.4	24.3		54.1		48.4	278.0		59.7	27.6	4.9
Level of Service		C	C		D		D	F		E	C	A
Approach Delay (s)		31.3			54.1			267.1			17.4	
Approach LOS		C			D			F			B	

Intersection Summary			
HCM 2000 Control Delay	155.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	109.6	Sum of lost time (s)	18.1
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	0.3					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	6	21	0	881	928	5
Future Vol, veh/h	6	21	0	881	928	5
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	6	6	0
Mvmt Flow	6	23	0	947	998	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1948	1004	1003	0	-	0
Stage 1	1001	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	72	296	698	-	-	-
Stage 1	358	-	-	-	-	-
Stage 2	380	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	72	295	696	-	-	-
Mov Cap-2 Maneuver	201	-	-	-	-	-
Stage 1	358	-	-	-	-	-
Stage 2	380	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	696	-	267	-	-
HCM Lane V/C Ratio	-	-	0.109	-	-
HCM Control Delay (s)	0	-	20.1	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Int Delay, s/veh	8.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	58	168	714	12	132	821
Future Vol, veh/h	58	168	714	12	132	821
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	325	190	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	18	5	100	11	5
Mvmt Flow	63	183	776	13	143	892

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1955	778	0	0	776	0
Stage 1	776	-	-	-	-	-
Stage 2	1179	-	-	-	-	-
Critical Hdwy	6.4	6.38	-	-	4.21	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.462	-	-	2.299	-
Pot Cap-1 Maneuver	71	372	-	-	801	-
Stage 1	457	-	-	-	-	-
Stage 2	295	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 58	371	-	-	800	-
Mov Cap-2 Maneuver	168	-	-	-	-	-
Stage 1	457	-	-	-	-	-
Stage 2	242	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	64.5	0	1.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	283	800	-
HCM Lane V/C Ratio	-	-	0.868	0.179	-
HCM Control Delay (s)	-	-	64.5	10.5	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	7.5	0.7	-

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

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	13	60	664	16	46	826
Future Vol, veh/h	13	60	664	16	46	826
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	350	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	5	6	25	15	5
Mvmt Flow	14	64	706	17	49	879

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1683	708	0	0	706	0
Stage 1	706	-	-	-	-	-
Stage 2	977	-	-	-	-	-
Critical Hdwy	6.4	6.25	-	-	4.25	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.345	-	-	2.335	-
Pot Cap-1 Maneuver	105	430	-	-	835	-
Stage 1	493	-	-	-	-	-
Stage 2	368	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	99	429	-	-	834	-
Mov Cap-2 Maneuver	229	-	-	-	-	-
Stage 1	493	-	-	-	-	-
Stage 2	346	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.3	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	371	834	-
HCM Lane V/C Ratio	-	-	0.209	0.059	-
HCM Control Delay (s)	-	-	17.3	9.6	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.2	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	0	173	4	0	3	85	623	4	7	751	67
Future Volume (vph)	57	0	173	4	0	3	85	623	4	7	751	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.94		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1736	1468		1523		1656	1791		1583	1792	1474
Flt Permitted		0.95	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1736	1468		1566		1656	1791		1583	1792	1474
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	61	0	184	4	0	3	90	663	4	7	799	71
RTOR Reduction (vph)	0	0	142	0	7	0	0	0	0	0	0	32
Lane Group Flow (vph)	0	61	42	0	0	0	90	667	0	7	799	39
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)									2			13
Heavy Vehicles (%)	4%	0%	10%	25%	0%	0%	9%	6%	0%	14%	6%	6%
Turn Type	Split	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4	1		3		1	6		5	2	
Permitted Phases			4	3								2
Actuated Green, G (s)		7.1	18.3		0.6		11.2	54.3		0.7	44.0	44.0
Effective Green, g (s)		7.1	18.3		0.6		11.2	54.3		0.7	44.0	44.0
Actuated g/C Ratio		0.09	0.23		0.01		0.14	0.67		0.01	0.54	0.54
Clearance Time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Vehicle Extension (s)		2.5	2.0		3.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		152	331		11		228	1200		13	973	800
v/s Ratio Prot		c0.04	0.02				c0.05	c0.37		0.00	c0.45	
v/s Ratio Perm			0.01		c0.00							0.03
v/c Ratio		0.40	0.13		0.00		0.39	0.56		0.54	0.82	0.05
Uniform Delay, d1		34.9	25.0		39.9		31.8	7.0		40.0	15.3	8.7
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.3	0.1		0.2		0.4	0.3		19.8	5.4	0.0
Delay (s)		36.2	25.0		40.1		32.2	7.3		59.8	20.6	8.7
Level of Service		D	C		D		C	A		E	C	A
Approach Delay (s)		27.8			40.1			10.3			20.0	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	81.0	Sum of lost time (s)	18.3
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection												
Int Delay, s/veh	4.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	42	0	14	0	0	3	16	670	1	0	890	38
Future Vol, veh/h	42	0	14	0	0	3	16	670	1	0	890	38
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	124	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	0	7	0	0	0	13	9	0	0	11	8
Mvmt Flow	45	0	15	0	0	3	17	720	1	0	957	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1733	1732	978	1740	1753	721	998	0	0	720	0	0
Stage 1	977	977	-	755	755	-	-	-	-	-	-	-
Stage 2	756	755	-	985	998	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.5	6.27	7.1	6.5	6.2	4.23	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4	3.363	3.5	4	3.3	2.317	-	-	2.2	-	-
Pot Cap-1 Maneuver	69	89	297	69	86	431	652	-	-	891	-	-
Stage 1	302	332	-	404	420	-	-	-	-	-	-	-
Stage 2	400	420	-	301	324	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	67	87	297	64	84	431	651	-	-	890	-	-
Mov Cap-2 Maneuver	67	87	-	64	84	-	-	-	-	-	-	-
Stage 1	294	332	-	393	409	-	-	-	-	-	-	-
Stage 2	386	409	-	286	324	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	120.7	13.4	0.2	0
HCM LOS	F	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	651	-	-	83	431	890	-	-
HCM Lane V/C Ratio	0.026	-	-	0.725	0.007	-	-	-
HCM Control Delay (s)	10.7	-	-	120.7	13.4	0	-	-
HCM Lane LOS	B	-	-	F	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	3.5	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	183	0	53	1	0	7	38	484	1	7	673	212
Future Volume (vph)	183	0	53	1	0	7	38	484	1	7	673	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.0		3.5	6.4		3.5	6.4	4.2
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		0.95		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.88		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1736	1495		1579		1703	1743		1805	1727	1538
Flt Permitted		0.95	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1736	1495		1589		1703	1743		1805	1727	1538
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	195	0	56	1	0	7	40	515	1	7	716	226
RTOR Reduction (vph)	0	0	44	0	8	0	0	0	0	0	0	64
Lane Group Flow (vph)	0	195	12	0	0	0	40	516	0	7	716	162
Confl. Peds. (#/hr)	1					1						
Confl. Bikes (#/hr)									5			13
Heavy Vehicles (%)	4%	0%	8%	0%	0%	0%	6%	9%	0%	0%	10%	3%
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8			7		1	6		5	2	8
Permitted Phases			8	7								2
Actuated Green, G (s)		16.6	16.6		0.6		3.9	43.3		0.7	40.1	56.7
Effective Green, g (s)		16.6	16.6		0.6		3.9	43.3		0.7	40.1	56.7
Actuated g/C Ratio		0.21	0.21		0.01		0.05	0.55		0.01	0.51	0.72
Clearance Time (s)		4.2	4.2		4.0		3.5	6.4		3.5	6.4	4.2
Vehicle Extension (s)		2.5	2.5		3.0		2.0	1.0		2.0	1.0	2.5
Lane Grp Cap (vph)		363	312		12		83	951		15	873	1099
v/s Ratio Prot		c0.11					c0.02	c0.30		0.00	c0.41	0.03
v/s Ratio Perm			0.01		c0.00							0.07
v/c Ratio		0.54	0.04		0.01		0.48	0.54		0.47	0.82	0.15
Uniform Delay, d1		27.9	25.0		39.1		36.7	11.6		39.1	16.6	3.6
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.2	0.0		0.2		1.6	0.3		8.1	5.9	0.0
Delay (s)		29.1	25.0		39.2		38.3	12.0		47.2	22.5	3.6
Level of Service		C	C		D		D	B		D	C	A
Approach Delay (s)		28.2			39.2			13.8			18.2	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	79.3	Sum of lost time (s)	18.1
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	1	23	2	890	1358	7
Future Vol, veh/h	1	23	2	890	1358	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	3	2	86
Mvmt Flow	1	25	2	957	1460	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2425	1464	1468	0	-	0
Stage 1	1464	-	-	-	-	-
Stage 2	961	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	36	159	466	-	-	-
Stage 1	215	-	-	-	-	-
Stage 2	374	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	36	159	466	-	-	-
Mov Cap-2 Maneuver	139	-	-	-	-	-
Stage 1	215	-	-	-	-	-
Stage 2	371	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	32.2	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	466	-	158	-	-
HCM Lane V/C Ratio	0.005	-	0.163	-	-
HCM Control Delay (s)	12.8	0	32.2	-	-
HCM Lane LOS	B	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection	
Int Delay, s/veh	15.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	68	155	737	0	147	1234
Future Vol, veh/h	68	155	737	0	147	1234
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	325	190	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	5	3	0	9	2
Mvmt Flow	74	168	801	0	160	1341

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2462	801	0	0	801	0
Stage 1	801	-	-	-	-	-
Stage 2	1661	-	-	-	-	-
Critical Hdwy	6.4	6.25	-	-	4.19	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.345	-	-	2.281	-
Pot Cap-1 Maneuver	~ 34	380	-	-	792	-
Stage 1	445	-	-	-	-	-
Stage 2	172	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 27	380	-	-	792	-
Mov Cap-2 Maneuver	104	-	-	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	137	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	157.4	0	1.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	210	792	-
HCM Lane V/C Ratio	-	-	1.154	0.202	-
HCM Control Delay (s)	-	-	157.4	10.7	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	11.8	0.8	-

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

Intersection						
Int Delay, s/veh	2.1					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	45	86	653	13	19	1262
Future Vol, veh/h	45	86	653	13	19	1262
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	350	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	7	2	23	5	2
Mvmt Flow	49	93	710	14	21	1372

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2123	710	0	0	710	0
Stage 1	710	-	-	-	-	-
Stage 2	1413	-	-	-	-	-
Critical Hdwy	6.44	6.27	-	-	4.15	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.363	-	-	2.245	-
Pot Cap-1 Maneuver	54	425	-	-	875	-
Stage 1	484	-	-	-	-	-
Stage 2	223	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	53	425	-	-	875	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	484	-	-	-	-	-
Stage 2	218	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	32.7	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	268	875	-
HCM Lane V/C Ratio	-	-	0.531	0.024	-
HCM Control Delay (s)	-	-	32.7	9.2	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	2.9	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	1	343	5	0	2	72	650	4	2	1350	29
Future Volume (vph)	55	1	343	5	0	2	72	650	4	2	1350	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.96		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1710	1568		1764		1719	1861		1805	1863	1459
Flt Permitted		0.95	1.00		0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1710	1568		1764		1719	1861		1805	1863	1459
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	1	373	5	0	2	78	707	4	2	1467	32
RTOR Reduction (vph)	0	0	310	0	7	0	0	0	0	0	0	12
Lane Group Flow (vph)	0	61	63	0	0	0	78	711	0	2	1467	20
Confl. Bikes (#/hr)									4			7
Heavy Vehicles (%)	6%	0%	3%	0%	0%	0%	5%	2%	0%	0%	2%	8%
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	Perm
Protected Phases	4	4	1	3	3		1	6		5	2	
Permitted Phases			4									2
Actuated Green, G (s)		6.6	14.9		0.9		8.3	61.1		0.8	53.8	53.8
Effective Green, g (s)		6.6	14.9		0.9		8.3	61.1		0.8	53.8	53.8
Actuated g/C Ratio		0.08	0.17		0.01		0.09	0.70		0.01	0.61	0.61
Clearance Time (s)		4.2	3.5		4.0		3.5	6.4		3.7	6.4	6.4
Vehicle Extension (s)		2.5	2.0		3.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		128	266		18		162	1296		16	1142	895
v/s Ratio Prot		c0.04	0.02		c0.00		c0.05	0.38		0.00	c0.79	
v/s Ratio Perm			0.02									0.01
v/c Ratio		0.48	0.24		0.00		0.48	0.55		0.12	1.28	0.02
Uniform Delay, d1		38.9	31.5		43.0		37.7	6.5		43.1	17.0	6.6
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		2.0	0.2		0.1		0.8	0.3		1.3	134.8	0.0
Delay (s)		40.9	31.7		43.0		38.5	6.8		44.4	151.8	6.6
Level of Service		D	C		D		D	A		D	F	A
Approach Delay (s)		33.0			43.0			9.9			148.5	
Approach LOS		C			D			A			F	

Intersection Summary			
HCM 2000 Control Delay	89.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	87.7	Sum of lost time (s)	18.3
Intersection Capacity Utilization	108.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	24.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	46	0	12	1	0	1	18	679	1	0	1626	72
Future Vol, veh/h	46	0	12	1	0	1	18	679	1	0	1626	72
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	124	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	4	0	0	0	0	0	6	2	0	0	2	3
Mvmt Flow	47	0	12	1	0	1	19	700	1	0	1676	74

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2451	2450	1713	2457	2488	700	1751	0	0	700	0	0
Stage 1	1713	1713	-	737	737	-	-	-	-	-	-	-
Stage 2	738	737	-	1720	1751	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.5	6.2	7.1	6.5	6.2	4.16	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4	3.3	3.5	4	3.3	2.254	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 21	31	113	21	30	443	348	-	-	906	-	-
Stage 1	113	147	-	413	428	-	-	-	-	-	-	-
Stage 2	407	428	-	115	141	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 20	29	113	18	28	443	348	-	-	906	-	-
Mov Cap-2 Maneuver	~ 20	29	-	18	28	-	-	-	-	-	-	-
Stage 1	107	147	-	390	405	-	-	-	-	-	-	-
Stage 2	384	405	-	102	141	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 1020.4	114.2	0.4	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	348	-	-	24	35	906	-	-
HCM Lane V/C Ratio	0.053	-	-	2.491	0.059	-	-	-
HCM Control Delay (s)	15.9	-	$	1020.4	114.2	0	-	-
HCM Lane LOS	C	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	7.5	0.2	0	-	-

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	168	1	57	2	1	15	38	507	1	0	1398	228
Future Volume (vph)	168	1	57	2	1	15	38	507	1	0	1398	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.0		3.5	6.4			6.4	4.2
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.89		1.00	1.00			1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1775	1583		1510		1805	1823			1881	1566
Flt Permitted		0.95	1.00		0.93		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1775	1583		1419		1805	1823			1881	1566
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	179	1	61	2	1	16	40	539	1	0	1487	243
RTOR Reduction (vph)	0	0	53	0	16	0	0	0	0	0	0	15
Lane Group Flow (vph)	0	180	8	0	3	0	40	540	0	0	1487	228
Confl. Peds. (#/hr)							1					1
Confl. Bikes (#/hr)									3			2
Heavy Vehicles (%)	2%	0%	2%	0%	0%	13%	0%	4%	100%	0%	1%	1%
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8			7		1	6		5	2	8
Permitted Phases			8	7								2
Actuated Green, G (s)		19.4	19.4		3.8		6.6	106.3			96.2	115.6
Effective Green, g (s)		19.4	19.4		3.8		6.6	106.3			96.2	115.6
Actuated g/C Ratio		0.13	0.13		0.03		0.05	0.74			0.67	0.80
Clearance Time (s)		4.2	4.2		4.0		3.5	6.4			6.4	4.2
Vehicle Extension (s)		2.5	2.5		3.0		2.0	1.0			1.0	2.5
Lane Grp Cap (vph)		238	213		37		82	1344			1255	1256
v/s Ratio Prot		c0.10					c0.02	0.30			c0.79	0.02
v/s Ratio Perm			0.01		c0.00							0.12
v/c Ratio		0.76	0.04		0.09		0.49	0.40			1.18	0.18
Uniform Delay, d1		60.1	54.2		68.5		67.1	7.0			23.9	3.3
Progression Factor		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		12.2	0.1		1.1		1.7	0.1			91.5	0.1
Delay (s)		72.3	54.3		69.6		68.8	7.1			115.5	3.4
Level of Service		E	D		E		E	A			F	A
Approach Delay (s)		67.8			69.6			11.4			99.7	
Approach LOS		E			E			B			F	

Intersection Summary			
HCM 2000 Control Delay	76.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	144.1	Sum of lost time (s)	18.1
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	30	122	1	238	1442	2	509	57
v/c Ratio	0.18	0.17	0.00	0.37	0.94	0.02	0.74	0.10
Control Delay	37.0	4.1	0.0	23.2	26.4	38.5	27.4	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	4.1	0.0	23.2	26.4	38.5	27.4	5.7
Queue Length 50th (ft)	12	0	0	76	~566	1	196	1
Queue Length 95th (ft)	45	35	0	202	#1367	8	366	24
Internal Link Dist (ft)	555		260		429		2371	
Turn Bay Length (ft)		135		346		466		466
Base Capacity (vph)	1207	737	750	657	1531	1340	1713	1363
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.17	0.00	0.36	0.94	0.00	0.30	0.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	365	56	14	70	1293	6	348	311
v/c Ratio	0.64	0.10	0.14	0.43	1.36	0.06	0.52	0.25
Control Delay	35.2	5.5	33.2	54.3	192.2	53.6	29.5	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	5.5	33.2	54.3	192.2	53.6	29.5	1.0
Queue Length 50th (ft)	174	0	2	39	~979	3	151	0
Queue Length 95th (ft)	331	21	24	98	#1724	19	322	19
Internal Link Dist (ft)	562		160		1523		1378	
Turn Bay Length (ft)		330		225		110		250
Base Capacity (vph)	924	850	732	345	1238	933	1563	1439
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.07	0.02	0.20	1.04	0.01	0.22	0.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	53	118	7	81	515	7	505	71
v/c Ratio	0.20	0.23	0.03	0.30	0.38	0.04	0.59	0.10
Control Delay	27.1	5.3	0.1	27.0	7.4	30.1	16.0	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	5.3	0.1	27.0	7.4	30.1	16.0	3.2
Queue Length 50th (ft)	13	0	0	20	58	2	111	0
Queue Length 95th (ft)	59	35	0	80	262	16	302	19
Internal Link Dist (ft)	555		260		429		2371	
Turn Bay Length (ft)		135		346		466		466
Base Capacity (vph)	746	1013	477	890	1791	510	1792	1469
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.12	0.01	0.09	0.29	0.01	0.28	0.05

Intersection Summary

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	147	40	8	36	400	7	421	159
v/c Ratio	0.37	0.10	0.03	0.15	0.51	0.03	0.60	0.14
Control Delay	22.2	2.5	0.1	26.0	12.6	27.7	16.8	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	2.5	0.1	26.0	12.6	27.7	16.8	1.1
Queue Length 50th (ft)	24	0	0	6	51	1	55	0
Queue Length 95th (ft)	118	8	0	44	223	15	255	16
Internal Link Dist (ft)	562		160		1523		1378	
Turn Bay Length (ft)		330		225		110		250
Base Capacity (vph)	1285	1127	470	428	1743	454	1727	1432
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.04	0.02	0.08	0.23	0.02	0.24	0.11

Intersection Summary

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	55	315	8	72	569	2	1207	31
v/c Ratio	0.33	0.53	0.04	0.42	0.39	0.02	1.02	0.03
Control Delay	41.7	6.9	0.4	43.8	6.4	40.5	51.0	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.7	6.9	0.4	43.8	6.4	40.5	51.0	2.3
Queue Length 50th (ft)	26	0	0	34	70	1	~652	0
Queue Length 95th (ft)	68	60	0	83	272	8	#1137	9
Internal Link Dist (ft)	555		260		429		2371	
Turn Bay Length (ft)		135		346		466		466
Base Capacity (vph)	1084	862	1149	544	1451	1144	1706	1335
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.37	0.01	0.13	0.39	0.00	0.71	0.02

Intersection Summary

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Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	130	46	19	31	427	1191	181
v/c Ratio	0.67	0.20	0.23	0.34	0.31	0.90	0.14
Control Delay	77.0	7.2	38.2	76.1	6.5	30.1	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.0	7.2	38.2	76.1	6.5	30.1	1.8
Queue Length 50th (ft)	117	0	3	28	114	901	15
Queue Length 95th (ft)	194	20	32	67	198	#1502	35
Internal Link Dist (ft)	562		160		1523	1378	
Turn Bay Length (ft)		330		225			250
Base Capacity (vph)	658	629	541	267	1398	1325	1524
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.07	0.04	0.12	0.31	0.90	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	29	121	1	234	1478	2	541	58
v/c Ratio	0.18	0.17	0.00	0.38	0.96	0.02	0.75	0.10
Control Delay	38.5	4.5	0.0	24.9	28.6	39.5	26.5	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	4.5	0.0	24.9	28.6	39.5	26.5	5.7
Queue Length 50th (ft)	12	0	0	80	~734	1	209	1
Queue Length 95th (ft)	45	36	0	205	#1431	8	392	25
Internal Link Dist (ft)	555		260		429		2371	
Turn Bay Length (ft)		135		346		466		466
Base Capacity (vph)	1172	717	744	638	1543	1301	1702	1354
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.17	0.00	0.37	0.96	0.00	0.32	0.04

Intersection Summary

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Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	364	55	14	66	1272	5	357	312
v/c Ratio	0.64	0.10	0.14	0.42	1.33	0.05	0.50	0.24
Control Delay	35.1	5.3	33.2	54.3	182.4	53.4	28.5	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.1	5.3	33.2	54.3	182.4	53.4	28.5	1.0
Queue Length 50th (ft)	173	0	2	37	~954	3	156	0
Queue Length 95th (ft)	345	23	24	98	#1771	18	347	22
Internal Link Dist (ft)	562		160		1523		1378	
Turn Bay Length (ft)		330		225		110		250
Base Capacity (vph)	924	851	732	345	1239	933	1562	1440
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.06	0.02	0.19	1.03	0.01	0.23	0.22

Intersection Summary

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Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	57	151	7	86	591	7	652	71
v/c Ratio	0.24	0.27	0.03	0.33	0.45	0.05	0.75	0.09
Control Delay	34.1	5.8	0.1	33.9	8.0	38.1	20.5	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.1	5.8	0.1	33.9	8.0	38.1	20.5	2.7
Queue Length 50th (ft)	18	0	0	27	75	2	173	0
Queue Length 95th (ft)	74	45	0	100	319	19	455	18
Internal Link Dist (ft)	555		260		429		2371	
Turn Bay Length (ft)		135		346		466		466
Base Capacity (vph)	645	967	425	769	1779	441	1746	1434
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.16	0.02	0.11	0.33	0.02	0.37	0.05

Intersection Summary

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	171	49	8	38	458	7	569	193
v/c Ratio	0.44	0.12	0.03	0.18	0.50	0.04	0.73	0.17
Control Delay	29.6	3.9	0.2	35.6	12.1	37.6	21.4	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.6	3.9	0.2	35.6	12.1	37.6	21.4	0.9
Queue Length 50th (ft)	51	0	0	12	71	2	154	0
Queue Length 95th (ft)	166	14	0	56	283	19	414	16
Internal Link Dist (ft)	562		160		1523		1378	
Turn Bay Length (ft)		330		225		110		250
Base Capacity (vph)	1050	935	395	346	1683	367	1667	1429
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.05	0.02	0.11	0.27	0.02	0.34	0.14

Intersection Summary

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	58	339	7	74	631	2	1317	32
v/c Ratio	0.34	0.55	0.04	0.43	0.44	0.02	1.12	0.03
Control Delay	41.9	7.0	0.3	44.0	6.9	40.5	84.6	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	7.0	0.3	44.0	6.9	40.5	84.6	2.5
Queue Length 50th (ft)	28	0	0	35	83	1	~773	0
Queue Length 95th (ft)	72	65	0	86	325	8	#1308	10
Internal Link Dist (ft)	555		260		429		2371	
Turn Bay Length (ft)		135		346		466		466
Base Capacity (vph)	1081	876	1142	543	1449	1141	1701	1331
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.39	0.01	0.14	0.44	0.00	0.77	0.02

Intersection Summary

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Lane Group	EBT	EBR	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	155	53	19	36	484	1339	212
v/c Ratio	0.70	0.21	0.24	0.38	0.35	1.03	0.16
Control Delay	77.4	9.7	39.4	78.9	7.7	57.1	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.4	9.7	39.4	78.9	7.7	57.1	1.9
Queue Length 50th (ft)	142	0	3	33	146	~1392	20
Queue Length 95th (ft)	228	29	32	76	255	#1898	43
Internal Link Dist (ft)	562		160		1523	1378	
Turn Bay Length (ft)		330		225			250
Base Capacity (vph)	645	618	528	262	1376	1299	1515
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.09	0.04	0.14	0.35	1.03	0.14

Intersection Summary

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Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	29	122	1	234	1546	2	585	59
v/c Ratio	0.20	0.19	0.00	0.42	0.99	0.02	0.72	0.09
Control Delay	42.0	4.9	0.0	28.6	34.0	42.5	24.1	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	4.9	0.0	28.6	34.0	42.5	24.1	5.8
Queue Length 50th (ft)	14	0	0	95	~868	1	234	2
Queue Length 95th (ft)	47	38	0	217	#1561	9	432	26
Internal Link Dist (ft)	555		260		429		2371	
Turn Bay Length (ft)		135		346		466		466
Base Capacity (vph)	1066	665	726	580	1565	1184	1632	1301
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.18	0.00	0.40	0.99	0.00	0.36	0.05

Intersection Summary

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Queue shown is maximum after two cycles.

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Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	381	57	14	66	1321	5	383	328
v/c Ratio	0.60	0.09	0.16	0.43	1.47	0.06	0.60	0.26
Control Delay	33.1	5.4	34.4	57.0	240.9	55.8	33.9	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	5.4	34.4	57.0	240.9	55.8	33.9	1.0
Queue Length 50th (ft)	184	0	2	39	~1092	3	185	0
Queue Length 95th (ft)	365	24	25	101	#1929	18	395	22
Internal Link Dist (ft)	562		160		1523		1378	
Turn Bay Length (ft)		330		225		110		250
Base Capacity (vph)	871	806	663	325	1168	879	1536	1421
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.07	0.02	0.20	1.13	0.01	0.25	0.23

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
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95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	53	118	7	81	515	7	505	71
v/c Ratio	0.20	0.23	0.03	0.30	0.38	0.04	0.59	0.10
Control Delay	27.1	5.3	0.1	27.0	7.4	30.1	16.0	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	5.3	0.1	27.0	7.4	30.1	16.0	3.2
Queue Length 50th (ft)	13	0	0	20	58	2	111	0
Queue Length 95th (ft)	59	35	0	80	262	16	302	19
Internal Link Dist (ft)	555		260		429		2371	
Turn Bay Length (ft)		135		346		466		466
Base Capacity (vph)	746	1013	477	890	1791	510	1792	1469
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.12	0.01	0.09	0.29	0.01	0.28	0.05

Intersection Summary

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	147	40	8	36	383	7	421	159
v/c Ratio	0.37	0.10	0.03	0.15	0.48	0.03	0.60	0.14
Control Delay	22.2	2.5	0.1	26.0	12.3	27.7	16.8	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	2.5	0.1	26.0	12.3	27.7	16.8	1.1
Queue Length 50th (ft)	24	0	0	6	49	1	55	0
Queue Length 95th (ft)	118	8	0	44	211	15	255	16
Internal Link Dist (ft)	562		160		1523		1378	
Turn Bay Length (ft)		330		225		110		250
Base Capacity (vph)	1285	1127	470	428	1743	454	1727	1432
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.04	0.02	0.08	0.22	0.02	0.24	0.11

Intersection Summary

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	61	373	7	78	711	2	1467	32
v/c Ratio	0.36	0.58	0.04	0.44	0.49	0.02	1.25	0.03
Control Delay	42.3	7.0	0.3	44.4	7.6	41.0	140.1	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.3	7.0	0.3	44.4	7.6	41.0	140.1	2.5
Queue Length 50th (ft)	29	0	0	38	101	1	~937	0
Queue Length 95th (ft)	75	66	0	90	393	8	#1516	10
Internal Link Dist (ft)	555		260		429		2371	
Turn Bay Length (ft)		135		346		466		466
Base Capacity (vph)	1077	895	1138	541	1449	1136	1694	1326
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.42	0.01	0.14	0.49	0.00	0.87	0.02

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	180	61	19	40	540	1487	243
v/c Ratio	0.74	0.22	0.24	0.40	0.40	1.17	0.19
Control Delay	78.5	12.2	40.1	81.1	8.9	107.9	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.5	12.2	40.1	81.1	8.9	107.9	2.1
Queue Length 50th (ft)	168	0	3	38	182	~1735	25
Queue Length 95th (ft)	263	39	33	84	316	#2293	52
Internal Link Dist (ft)	562		160		1523	1378	
Turn Bay Length (ft)		330		225			250
Base Capacity (vph)	634	608	517	258	1357	1276	1509
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.10	0.04	0.16	0.40	1.17	0.16

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Scenario Report

Scenario:	Existing AM
Command:	Existing AM
Volume:	Existing AM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 227 and Airport	No / No	??? / ???
# 2 SR 227 and Farmhouse	No / No	??? / ???
# 3 SR 227 and Kendall	No / No	??? / ???
# 5 SR 227 and Crestmont	No / Yes	??? / ???

Peak Hour Delay Signal Warrant Report

Intersection #1 SR 227 and Airport

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 1 0 0 0			0 0 0 1 0			1 0 0 0 0			0 0 0 0 0		
Initial Vol:	4	1294	0	0	620	4	1	0	0	0	0	0
ApproachDel:	xxxxxx			xxxxxx			62.1			xxxxxx		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=1]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1923]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #1 SR 227 and Airport

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
Initial Vol:	4		1294		0	0		620		4	1		0		0	0		0		0

Major Street Volume: 1922
Minor Approach Volume: 1
Minor Approach Volume Threshold: -14 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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                     Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #2 SR 227 and Farmhouse
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1   1  0  1  0  0   0  0  0  0  0   0  0  0  0  1
Initial Vol:    0 1280     7    37  583     0     0    0     0     0    0    18
ApproachDel:    xxxxxx          xxxxxx          xxxxxx             26.5
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1925]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
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SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #2 SR 227 and Farmhouse

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0	1 0	1	1 0	1 0	0	0 0	0 0	0	0 0	0 0	1
Initial Vol:	0	1280	7	37	583	0	0	0	0	0	0	18

Major Street Volume: 1907
Minor Approach Volume: 18
Minor Approach Volume Threshold: -27 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Delay Signal Warrant Report

Intersection #3 SR 227 and Kendall

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	1!	0	0
Initial Vol:	0		1261		59	112		469		0	0		0		0	3		0		22
ApproachDel:	xxxxxx					xxxxxx					xxxxxx					35.7				

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=25]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1926]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #3 SR 227 and Kendall

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0	1	0 1	1 0	1	0 0	0 0	0	0 0	0 0	1!	0 0
Initial Vol:	0	1261	59	112	469	0	0	0	0	3	0	22

Major Street Volume: 1901
Minor Approach Volume: 25
Minor Approach Volume Threshold: -26 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Delay Signal Warrant Report

Intersection #5 SR 227 and Crestmont

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	1	0	1	0	1	0	0	0	1	0	0	0	1!	0	0	0	0	1!	0	0
Initial Vol:	16		1442		2	0		542		26	68		0		27	1		0		2
ApproachDel:	xxxxxx					xxxxxx					1055.5					74.5				

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=27.9]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=95]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2126]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=3]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2126]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #5 SR 227 and Crestmont

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	1 0	1	0 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	16	1442	2	0	542	26	68	0	27	1	0	2

Major Street Volume: 2028
Minor Approach Volume: 95
Minor Approach Volume Threshold: -41 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Scenario Report

Scenario:	Existing PM
Command:	Existing PM
Volume:	Existing PM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 227 and Airport	No / No	??? / ???
# 2 SR 227 and Farmhouse	No / No	??? / ???
# 3 SR 227 and Kendall	Yes / Yes	??? / ???
# 5 SR 227 and Crestmont	No / No	??? / ???

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                     Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #1 SR 227 and Airport
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:    4 1216     0     0 2060    14     2    0    34     0    0     0
ApproachDel:    xxxxxx           xxxxxx            291.9           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.9]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=36]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3330]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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Peak Hour Volume Signal Warrant Report [Rural]

Intersection #1 SR 227 and Airport

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	0	1	0	0	0	0	0	0	1	0	0	0	1!	0	0	0	0	0	0	0
Initial Vol:	4		1216		0	0		2060		14	2		0		34	0		0		0

Major Street Volume: 3294
Minor Approach Volume: 36
Minor Approach Volume Threshold: -104 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Delay Signal Warrant Report

Intersection #2 SR 227 and Farmhouse

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0	1	0 1	1 0	1	0 0	0 0	0	0 0	0 0	1!	0 0
Initial Vol:	0	1180	0	46	2048	0	0	0	0	8	0	40
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			711.8		

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=9.5]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=48]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3322]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #2 SR 227 and Farmhouse

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	1!	0	0
Initial Vol:	0		1180		0	46		2048		0	0		0		0	8		0		40

Major Street Volume: 3274
Minor Approach Volume: 48
Minor Approach Volume Threshold: -151 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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                     Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #3 SR 227 and Kendall
********************************************************************************
Base Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1   1  0  1  0  0   0  0  0  0  0   0  0  1! 0  0
Initial Vol:    0 1004    26    38 1974     0     0    0     0    90    0   172
ApproachDel:    xxxxxx           xxxxxx           xxxxxx          5443.6
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=396.2]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=262]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3304]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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                Peak Hour Volume Signal Warrant Report [Rural]
********************************************************************************
Intersection #3 SR 227 and Kendall
********************************************************************************
Base Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1   1  0  1  0  0   0  0  0  0  0   0  0  1! 0  0
Initial Vol:    0 1004    26    38 1974     0     0    0     0    90    0   172
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             3042
Minor Approach Volume:           262
Minor Approach Volume Threshold: -134 [less than minimum of 75]
--------------------------------------------------------------------------------
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SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Delay Signal Warrant Report

Intersection #5 SR 227 and Crestmont

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	1 0	1	0 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	18	524	1	0	1287	72	46	0	12	1	0	1
ApproachDel:	xxxxxx			xxxxxx			254.0			49.8		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4.1]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=58]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1962]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=2]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1962]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #5 SR 227 and Crestmont

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	1 0	1	0 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	18	524	1	0	1287	72	46	0	12	1	0	1

Major Street Volume: 1902
Minor Approach Volume: 58
Minor Approach Volume Threshold: -26 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Scenario Report

Scenario:	Existing MD
Command:	Existing MD
Volume:	Existing MD
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 227 and Airport	No / No	??? / ???
# 2 SR 227 and Farmhouse	No / No	??? / ???
# 3 SR 227 and Kendall	No / No	??? / ???
# 5 SR 227 and Crestmont	No / No	??? / ???

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                     Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #1 SR 227 and Airport
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:    0  600     0     0  604     5     5    0    16     0    0     0
ApproachDel:    xxxxxx           xxxxxx             16.3           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=21]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1230]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #1 SR 227 and Airport

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0	1	0 0	0 0	0	1 0	0 0	1!	0 0	0 0	0	0 0
Initial Vol:	0	600	0	0	604	5	5	0	16	0	0	0

Major Street Volume: 1209
Minor Approach Volume: 21
Minor Approach Volume Threshold: 63 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Delay Signal Warrant Report

Intersection #2 SR 227 and Farmhouse

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	1!	0	0
Initial Vol:	0		578		1	19		601		0	0		0		0	4		0		22
ApproachDel:	xxxxxx					xxxxxx					xxxxxx					15.3				

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
 FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=26]
 FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1225]
 SUCCEED - Total volume greater than or equal to 650 for intersection
 with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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                Peak Hour Volume Signal Warrant Report [Rural]
********************************************************************************
Intersection #2 SR 227 and Farmhouse
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    1  0  1  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  578     1    19  601     0     0    0     0     4    0    22
------------|---------------||---------------||---------------||---------------|
Major Street Volume:            1199
Minor Approach Volume:          26
Minor Approach Volume Threshold: 80
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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                     Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #3 SR 227 and Kendall
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    1  0  1  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  513    16    46  552     0     0    0     0    13    0    60
ApproachDel:    xxxxxx           xxxxxx           xxxxxx            15.9
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=73]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1200]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #3 SR 227 and Kendall

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 1 0 1	1 0 1 0 0	0 0 0 0 0	0 0 1! 0 0
Initial Vol:	0 513 16	46 552 0	0 0 0	13 0 60

Major Street Volume: 1127
Minor Approach Volume: 73
Minor Approach Volume Threshold: 94

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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                     Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #5 SR 227 and Crestmont
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  1    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  1
Initial Vol:   16  515     1     0  552    38    42    0    14     0    0     3
ApproachDel:    xxxxxx           xxxxxx            32.2             11.8
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=56]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1181]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=3]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1181]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #5 SR 227 and Crestmont

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	1	0 1	0 0	0	1 0	0 0	1!	0 0	0 0	0	0 1
Initial Vol:	16	515	1	0	552	38	42	0	14	0	0	3

Major Street Volume: 1122
Minor Approach Volume: 56
Minor Approach Volume Threshold: 95

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Scenario Report

Scenario:	Interim AM
Command:	Interim AM
Volume:	Interim AM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 227 and Airport	No / No	??? / ???
# 2 SR 227 and Farmhouse	No / No	??? / ???
# 3 SR 227 and Kendall	No / No	??? / ???
# 5 SR 227 and Crestmont	No / Yes	??? / ???

Peak Hour Delay Signal Warrant Report

Intersection #1 SR 227 and Airport

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
Initial Vol:	4		1367		0	0		697		4	1		0		0	0		0		0
ApproachDel:	xxxxxx					xxxxxx					77.1					xxxxxx				

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=1]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2073]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #1 SR 227 and Airport

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
Initial Vol:	4		1367		0	0		697		4	1		0		0	0		0		0

Major Street Volume: 2072
Minor Approach Volume: 1
Minor Approach Volume Threshold: -27 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Delay Signal Warrant Report

Intersection #2 SR 227 and Farmhouse

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0	0 1 0	1	1	0 1 0	0	0	0 0 0	0	0	0 0 0	1
Initial Vol:	0	1319	29	75	625	0	0	0	0	0	0	51
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			34.1		

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=51]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2099]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #2 SR 227 and Farmhouse

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0	0 1 0	1	1	0 1 0	0	0	0 0 0	0	0	0 0 0	1
Initial Vol:	0	1319	29	75	625	0	0	0	0	0	0	51

Major Street Volume: 2048
Minor Approach Volume: 51
Minor Approach Volume Threshold: -43 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Delay Signal Warrant Report

Intersection #3 SR 227 and Kendall

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 1 0 1	1 0 1 0 0	0 0 0 0 0	0 0 1! 0 0
Initial Vol:	0 1324 59	112 510 0	0 0 0	3 0 22
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	40.5

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=25]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2030]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #3 SR 227 and Kendall

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 1 0 1	1 0 1 0 0	0 0 0 0 0	0 0 1! 0 0
Initial Vol:	0 1324 59	112 510 0	0 0 0	3 0 22

Major Street Volume: 2005
Minor Approach Volume: 25
Minor Approach Volume Threshold: -38 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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Peak Hour Delay Signal Warrant Report

Intersection #5 SR 227 and Crestmont

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	1 0 1 0 1	0 0 0 1 0	0 0 1! 0 0	0 0 1! 0 0
Initial Vol:	16 1505 2	0 583 26	68 0 27	1 0 2
ApproachDel:	xxxxxx	xxxxxx	1364.7	88.4

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=36.0]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=95]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2230]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=3]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2230]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #5 SR 227 and Crestmont

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	1 0 1 0 1	0 0 0 1 0	0 0 1! 0 0	0 0 1! 0 0
Initial Vol:	16 1505 2	0 583 26	68 0 27	1 0 2

Major Street Volume: 2132
Minor Approach Volume: 95
Minor Approach Volume Threshold: -52 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Scenario Report

Scenario:	Interim PM
Command:	Interim PM
Volume:	Interim PM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 227 and Airport	No / No	??? / ???
# 2 SR 227 and Farmhouse	Yes / Yes	??? / ???
# 3 SR 227 and Kendall	No / Yes	??? / ???
# 5 SR 227 and Crestmont	No / No	??? / ???

Peak Hour Delay Signal Warrant Report

Intersection #1 SR 227 and Airport

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 1 0 0 0	0 0 0 1 0	0 0 1! 0 0	0 0 0 0 0
Initial Vol:	2 749 0	0 1192 7	1 0 20	0 0 0
ApproachDel:	xxxxxx	xxxxxx	27.7	xxxxxx

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=21]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1971]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #1 SR 227 and Airport

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 1 0 0 0	0 0 0 1 0	0 0 1! 0 0	0 0 0 0 0
Initial Vol:	2 749 0	0 1192 7	1 0 20	0 0 0

Major Street Volume: 1950
Minor Approach Volume: 21
Minor Approach Volume Threshold: -17 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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                     Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #2 SR 227 and Farmhouse
********************************************************************************
Base Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    1  0  1  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  664    0    85 1129    0     0    0     0    36    0    88
ApproachDel:    xxxxxx           xxxxxx           xxxxxx            154.2
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.3]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=124]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2002]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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               Peak Hour Volume Signal Warrant Report [Rural]
********************************************************************************
Intersection #2 SR 227 and Farmhouse
********************************************************************************
Base Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    1  0  1  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  664    0    85 1129    0     0    0     0    36    0    88
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1878
Minor Approach Volume:            124
Minor Approach Volume Threshold: -23 [less than minimum of 75]
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

Peak Hour Delay Signal Warrant Report

Intersection #3 SR 227 and Kendall

Base Volume Alternative: Peak Hour Warrant NOT Met

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1   1  0  1  0  0   0  0  0  0  0   0  0  1! 0  0
Initial Vol:    0  578    13    19 1125     0     0    0     0    45    0    86
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             92.1
------------|---------------||---------------||---------------||---------------|
```

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=131]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1866]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #3 SR 227 and Kendall

Base Volume Alternative: Peak Hour Warrant Met

```
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1   1  0  1  0  0   0  0  0  0  0   0  0  1! 0  0
Initial Vol:    0  578    13    19 1125     0     0    0     0    45    0    86
------------|---------------||---------------||---------------||---------------|
Major Street Volume:              1735
Minor Approach Volume:            131
Minor Approach Volume Threshold: -5 [less than minimum of 75]
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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                     Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #5 SR 227 and Crestmont
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  1   0  0  0  1  0   0  0  1! 0  0   0  0  1! 0  0
Initial Vol:   18  602     1     0 1457    72    46    0    12     1    0     1
ApproachDel:    xxxxxx           xxxxxx            527.8             74.2
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=8.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=58]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2210]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=2]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2210]
   SUCCEED - Total volume greater than or equal to 800 for intersection
             with four or more approaches.
--------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.


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--------------------------------------------------------------------------------
                Peak Hour Volume Signal Warrant Report [Rural]
********************************************************************************
Intersection #5 SR 227 and Crestmont
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  1   0  0  0  1  0   0  0  1! 0  0   0  0  1! 0  0
Initial Vol:   18  602     1     0 1457    72    46    0    12     1    0     1
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2150
Minor Approach Volume:           58
Minor Approach Volume Threshold: -54 [less than minimum of 75]
--------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Scenario Report

Scenario:	Interim MD
Command:	Interim MD
Volume:	Interim MD
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 227 and Airport	No / No	??? / ???
# 2 SR 227 and Farmhouse	No / Yes	??? / ???
# 3 SR 227 and Kendall	No / No	??? / ???
# 5 SR 227 and Crestmont	No / No	??? / ???

Peak Hour Delay Signal Warrant Report

Intersection #1 SR 227 and Airport

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 1 0 0	0 0 0 1 0	0 0 1! 0 0	0 0 0 0 0
Initial Vol:	0 741 0	0 766 5	6 0 19	0 0 0
ApproachDel:	xxxxxx	xxxxxx	21.7	xxxxxx

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=25]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1537]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Rural]

Intersection #1 SR 227 and Airport

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 1 0 0	0 0 0 1 0	0 0 1! 0 0	0 0 0 0 0
Initial Vol:	0 741 0	0 766 5	6 0 19	0 0 0

Major Street Volume: 1512
Minor Approach Volume: 25
Minor Approach Volume Threshold: 26 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Delay Signal Warrant Report

Intersection #2 SR 227 and Farmhouse

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	1!	0	0
Initial Vol:	0		646		7	76		711		0	0		0		0	31		0		95
ApproachDel:	xxxxxx					xxxxxx					xxxxxx					36.9				

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=126]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1566]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Rural]

Intersection #2 SR 227 and Farmhouse

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	1!	0	0
Initial Vol:	0		646		7	76		711		0	0		0		0	31		0		95

Major Street Volume: 1440
Minor Approach Volume: 126
Minor Approach Volume Threshold: 38 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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                     Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #3 SR 227 and Kendall
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    1  0  1  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  589    16    46  689     0     0    0     0    13    0    60
ApproachDel:    xxxxxx           xxxxxx           xxxxxx             18.9
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=73]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1413]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.


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--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                Peak Hour Volume Signal Warrant Report [Rural]
********************************************************************************
Intersection #3 SR 227 and Kendall
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    1  0  1  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  589    16    46  689     0     0    0     0    13    0    60
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1340
Minor Approach Volume:           73
Minor Approach Volume Threshold: 55 [less than minimum of 75]
--------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Delay Signal Warrant Report

Intersection #5 SR 227 and Crestmont

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	1	0	1	0	1	0	0	0	1	0	0	0	1!	0	0	0	0	0	0	1
Initial Vol:	16		593		1	0		721		38	42		0		14	0		0		3
ApproachDel:	xxxxxx					xxxxxx					56.3					12.5				

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=56]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1428]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=3]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1428]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #5 SR 227 and Crestmont

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	1	0	1	0	1	0	0	0	1	0	0	0	1!	0	0	0	0	0	0	1
Initial Vol:	16		593		1	0		721		38	42		0		14	0		0		3

Major Street Volume: 1369
Minor Approach Volume: 56
Minor Approach Volume Threshold: 50 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Scenario Report

Scenario:	Future AM
Command:	Future AM
Volume:	Future AM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 227 and Airport	No / No	??? / ???
# 2 SR 227 and Farmhouse	No / Yes	??? / ???
# 3 SR 227 and Kendall	No / No	??? / ???
# 5 SR 227 and Crestmont	No / Yes	??? / ???

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                     Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #1 SR 227 and Airport
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    1  0  0  0  0    0  0  0  0  0
Initial Vol:    4 1439     0     0  773     4     1    0     0     0    0     0
ApproachDel:    xxxxxx           xxxxxx             96.0            xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=1]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2221]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #1 SR 227 and Airport

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 1 0 0 0	0 0 0 1 0	1 0 0 0 0	0 0 0 0 0
Initial Vol:	4 1439 0	0 773 4	1 0 0	0 0 0

Major Street Volume: 2220
Minor Approach Volume: 1
Minor Approach Volume Threshold: -38 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Delay Signal Warrant Report

Intersection #2 SR 227 and Farmhouse

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Initial Vol:	0		1358		50	110		666		0	0		0		0	0		0		84
ApproachDel:	xxxxxx					xxxxxx					xxxxxx					48.6				

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=84]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2268]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #2 SR 227 and Farmhouse

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0	1 0	1	1 0	1 0	0	0 0	0 0	0	0 0	0 0	1
Initial Vol:	0	1358	50	110	666	0	0	0	0	0	0	84

Major Street Volume: 2184
Minor Approach Volume: 84
Minor Approach Volume Threshold: -58 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Delay Signal Warrant Report

Intersection #3 SR 227 and Kendall

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	1!	0	0
Initial Vol:	0		1386		59	112		551		0	0		0		0	3		0		22
ApproachDel:	xxxxxx					xxxxxx					xxxxxx					46.3				

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=25]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2133]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #3 SR 227 and Kendall

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0	1	0 1	1 0	1	0 0	0 0	0	0 0	0 0	1!	0 0
Initial Vol:	0	1386	59	112	551	0	0	0	0	3	0	22

Major Street Volume: 2108
Minor Approach Volume: 25
Minor Approach Volume Threshold: -50 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Delay Signal Warrant Report

Intersection #5 SR 227 and Crestmont

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	1	0	1	0	1	0	0	0	1	0	0	0	1!	0	0	0	0	1!	0	0
Initial Vol:	16		1567		2	0		624		26	68		0		27	1		0		2
ApproachDel:	xxxxxx					xxxxxx					1412.0					92.3				

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=37.3]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=95]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2333]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=3]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2333]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #5 SR 227 and Crestmont

Base Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	1 0	1	0 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	16	1567	2	0	624	26	68	0	27	1	0	2

Major Street Volume: 2235
Minor Approach Volume: 95
Minor Approach Volume Threshold: -63 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Scenario Report

Scenario:	Future PM
Command:	Future PM
Volume:	Future PM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 227 and Airport	No / No	??? / ???
# 2 SR 227 and Farmhouse	Yes / Yes	??? / ???
# 3 SR 227 and Kendall	Yes / Yes	??? / ???
# 5 SR 227 and Crestmont	No / No	??? / ???

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                     Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #1 SR 227 and Airport
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign         Stop Sign
Lanes:        0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:    2  890     0     0 1353     7     1    0    23     0    0     0
ApproachDel:    xxxxxx           xxxxxx              36.4           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=24]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2276]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER
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Peak Hour Volume Signal Warrant Report [Rural]

Intersection #1 SR 227 and Airport

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 1 0 0 0	0 0 0 1 0	0 0 1! 0 0	0 0 0 0 0
Initial Vol:	2 890 0	0 1353 7	1 0 23	0 0 0

Major Street Volume: 2252
Minor Approach Volume: 24
Minor Approach Volume Threshold: -41 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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                     Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #2 SR 227 and Farmhouse
********************************************************************************
Base Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    1  0  1  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  737     0   147 1234     0     0    0     0    68    0   155
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           1003.7
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=62.2]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=223]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2341]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
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SIGNAL WARRANT DISCLAIMER
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                Peak Hour Volume Signal Warrant Report [Rural]
********************************************************************************
Intersection #2 SR 227 and Farmhouse
********************************************************************************
Base Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    1  0  1  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  737     0   147 1234     0     0    0     0    68    0   155
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2118
Minor Approach Volume:           223
Minor Approach Volume Threshold: -51 [less than minimum of 75]
--------------------------------------------------------------------------------
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SIGNAL WARRANT DISCLAIMER

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                     Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #3 SR 227 and Kendall
********************************************************************************
Base Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1   1  0  1  0  0   0  0  0  0  0   0  0  1! 0  0
Initial Vol:    0  653    13    19 1262     0     0    0     0    45    0    86
ApproachDel:    xxxxxx           xxxxxx           xxxxxx            177.1
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=6.4]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=131]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2078]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
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"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

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a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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--------------------------------------------------------------------------------
                Peak Hour Volume Signal Warrant Report [Rural]
********************************************************************************
Intersection #3 SR 227 and Kendall
********************************************************************************
Base Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1   1  0  1  0  0   0  0  0  0  0   0  0  1! 0  0
Initial Vol:    0  653    13    19 1262     0     0    0     0    45    0    86
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1947
Minor Approach Volume:           131
Minor Approach Volume Threshold: -31 [less than minimum of 75]
--------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Delay Signal Warrant Report

Intersection #5 SR 227 and Crestmont

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	1 0	1	0 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	18	679	1	0	1626	72	46	0	12	1	0	1
ApproachDel:	xxxxxx			xxxxxx			977.6			114.3		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=15.8]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=58]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2456]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=2]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2456]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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                Peak Hour Volume Signal Warrant Report [Rural]
********************************************************************************
Intersection #5 SR 227 and Crestmont
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        1  0  1  0  1    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
Initial Vol:   18  679     1     0 1626    72    46    0    12     1    0     1
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             2396
Minor Approach Volume:           58
Minor Approach Volume Threshold: -79 [less than minimum of 75]
--------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Scenario Report

Scenario:	Future MD
Command:	Future MD
Volume:	Future MD
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 227 and Airport	No / No	??? / ???
# 2 SR 227 and Farmhouse	Yes / Yes	??? / ???
# 3 SR 227 and Kendall	No / No	??? / ???
# 5 SR 227 and Crestmont	No / No	??? / ???

Peak Hour Delay Signal Warrant Report

Intersection #1 SR 227 and Airport

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	0	0	1	0	0	0	0	0	1	0	0	0	1!	0	0	0	0	0	0	0
Initial Vol:	0		881		0	0		928		5	6		0		21	0		0		0
ApproachDel:	xxxxxx					xxxxxx					29.6					xxxxxx				

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=27]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1841]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                Peak Hour Volume Signal Warrant Report [Rural]
********************************************************************************
Intersection #1 SR 227 and Airport
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  0  0  0
Initial Vol:    0  881     0     0  928     5     6    0    21     0    0     0
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1814
Minor Approach Volume:           27
Minor Approach Volume Threshold: -5 [less than minimum of 75]
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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                     Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #2 SR 227 and Farmhouse
********************************************************************************
Base Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    1  0  1  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  714    12   132  821     0     0    0     0    58    0   168
ApproachDel:    xxxxxx           xxxxxx           xxxxxx           294.8
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=18.5]
   SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=226]
   SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1905]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                Peak Hour Volume Signal Warrant Report [Rural]
********************************************************************************
Intersection #2 SR 227 and Farmhouse
********************************************************************************
Base Volume Alternative: Peak Hour Warrant Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    1  0  1  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  714    12   132  821     0     0    0     0    58    0   168
------------|---------------||---------------||---------------||---------------|
Major Street Volume:            1679
Minor Approach Volume:          226
Minor Approach Volume Threshold: 3 [less than minimum of 75]
--------------------------------------------------------------------------------
```

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                     Peak Hour Delay Signal Warrant Report
********************************************************************************
Intersection #3 SR 227 and Kendall
********************************************************************************
Base Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Lanes:        0  0  1  0  1    1  0  1  0  0    0  0  0  0  0    0  0  1! 0  0
Initial Vol:    0  664    16    46  826     0     0    0     0    13    0    60
ApproachDel:    xxxxxx           xxxxxx           xxxxxx            23.2
------------|---------------||---------------||---------------||---------------|
Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=73]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1625]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #3 SR 227 and Kendall

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	1!	0	0
Initial Vol:	0		664		16	46		826		0	0		0		0	13		0		60

Major Street Volume: 1552
Minor Approach Volume: 73
Minor Approach Volume Threshold: 21 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Delay Signal Warrant Report

Intersection #5 SR 227 and Crestmont

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L		T		R	L		T		R	L		T		R	L		T		R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	1	0	1	0	1	0	0	0	1	0	0	0	1!	0	0	0	0	0	0	1
Initial Vol:	16		670		1	0		890		38	42		0		14	0		0		3
ApproachDel:	xxxxxx					xxxxxx					117.4					13.4				

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.8]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=56]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1674]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=3]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1674]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Rural]

Intersection #5 SR 227 and Crestmont

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	1	0	1	0	1	0	0	0	1	0	0	0	1!	0	0	0	0	0	0	1
Initial Vol:	16		670		1	0		890		38	42		0		14	0		0		3

Major Street Volume: 1615
Minor Approach Volume: 56
Minor Approach Volume Threshold: 12 [less than minimum of 75]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

APPENDIX E

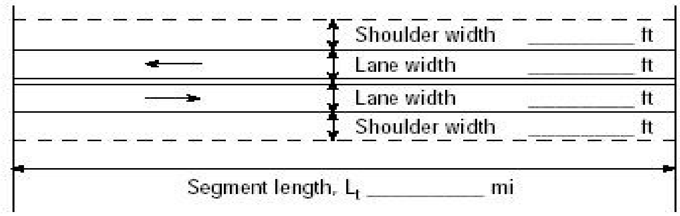
SEGMENT LOS WORKSHEETS

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Buckley Rd NB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2016*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Analysis direction vol., V_d	*1125*veh/h
Opposing direction vol., V_o	*466*veh/h
Shoulder width ft	*8.5*
Lane Width ft	*12.0*
Segment Length mi	*0.8*
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1262*	*523*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*47.2* mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0* mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0* mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.1* mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*45.2* mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*29.2* mi/h
		Percent free flow speed, PFFS	*64.6* %

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1262*	*523*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*81.1*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*17.4*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*93.4*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.74*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*64.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1222.8*
Effective width, Wv (Eq. 15-29) ft	*29.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.57*
Bicycle level of service (Exhibit 15-4)	*C*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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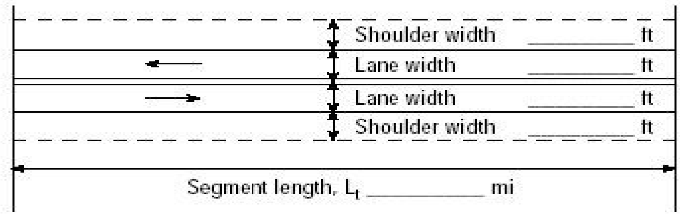
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		*Site Information*	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Buckley Rd SB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2016*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*466*veh/h
Opposing direction vol., V_o	*1125*veh/h
Shoulder width ft	*9.5*
Lane Width ft	*12.0*
Segment Length mi	*0.8*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*523*	*1262*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.9 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*43.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*28.2 mi/h*
		Percent free flow speed, PFFS	*65.7 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*523*	*1262*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*61.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*17.4*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*66.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.31*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*65.7*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*506.5*
Effective width, Wv (Eq. 15-29) ft	*31.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*1.52*
Bicycle level of service (Exhibit 15-4)	*B*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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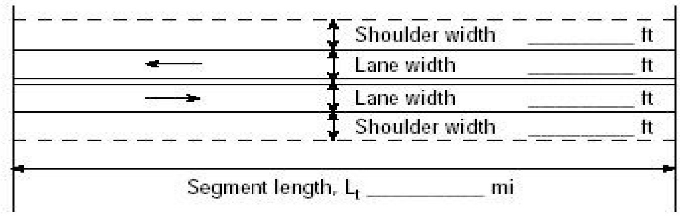
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Crestmont Dr NB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2016*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *100%*

% Trucks and Buses , P_T *6* %

% Recreational vehicles, P_R *4%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *1230*veh/h

Opposing direction vol., V_o *531*veh/h

Shoulder width ft *12.0*

Lane Width ft *12.0*

Segment Length mi *0.3*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF^* f_{g,ATS} * f_{HV,ATS})$	*1380*	*596*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*53.0* *mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0* *mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0* *mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.9* *mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*51.0* *mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*33.7* *mi/h*
		Percent free flow speed, PFFS	*66.2* *%*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF^*f_{HV,PTSF}{}^* f_{g,PTSF})$	*1380*	*596*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*83.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.9*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*93.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.81*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*66.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1337.0*
Effective width, Wv (Eq. 15-29) ft	*36.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*0.34*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

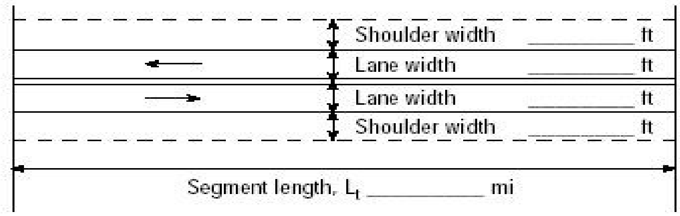
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Crestmont Dr SB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2016*

Project Description: *SR 227 Operational Analysis*

Input Data



Analysis direction vol., V_d *531*veh/h

Opposing direction vol., V_o *1230*veh/h

Shoulder width ft *13.0*

Lane Width ft *12.0*

Segment Length mi *0.3*

☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain	☑ Level	☐ Rolling
Grade Length	mi	Up/down
Peak-hour factor, PHF		*0.92*
No-passing zone		*100%*
% Trucks and Buses , P_T		*6 %*
% Recreational vehicles, P_R		*4%*
Access points *mi*		*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*596*	*1380*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
		Base free-flow speed[4], BFFS	*48.2 mi/h*
		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Mean speed of sample[3], S_{FM}		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Total demand flow rate, both directions, *v*		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*30.1 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.8 mi/h*	Percent free flow speed, PFFS	*65.2 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*596*	*1380*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*66.8*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.9*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*71.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.35*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*65.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*577.2*
Effective width, Wv (Eq. 15-29) ft	*38.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-0.83*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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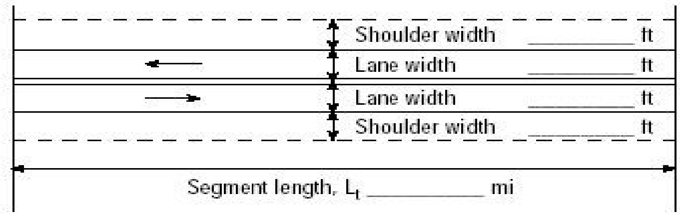
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Crestmont Dr NB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2016*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Analysis direction vol., V_d	*1169*veh/h
Opposing direction vol., V_o	*542*veh/h
Shoulder width ft	*43.0*
Lane Width ft	*12.0*
Segment Length mi	*0.3*
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1311*	*608*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*53.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.9 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*51.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*34.2 mi/h*
		Percent free flow speed, PFFS	*67.1 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1311*	*608*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*81.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*16.1*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*92.5*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.77*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*67.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1270.7*
Effective width, Wv (Eq. 15-29) ft	*98.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-41.23*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If $v_i(v_d$ or $v_o)$ >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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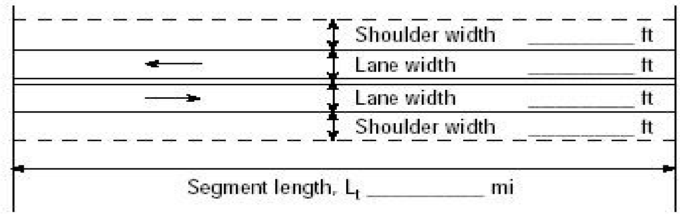
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Crestmont Dr SB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2016*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*543*veh/h
Opposing direction vol., V_o	*1167*veh/h
Shoulder width ft	*15.0*
Lane Width ft	*12.0*
Segment Length mi	*0.3*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF^* f_{g,ATS} * f_{HV,ATS})$	*609*	*1309*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*48.2* mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0* mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0* mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.8* mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2* mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*30.5* mi/h
		Percent free flow speed, PFFS	*65.9* %

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF^*f_{HV,PTSF}^* f_{g,PTSF})$	*609*	*1309*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*66.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*16.1*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*71.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.36*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*65.9*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*590.2*
Effective width, Wv (Eq. 15-29) ft	*42.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-2.42*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

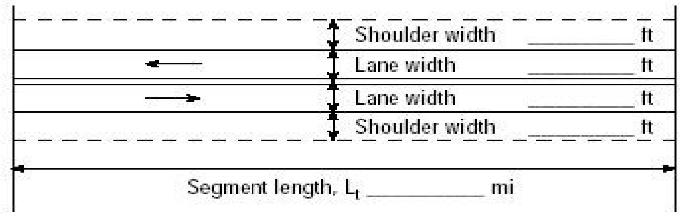
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Los Ranchos Road NB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2016*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *100%*

% Trucks and Buses , P_T *6* %

% Recreational vehicles, P_R *4%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *937*veh/h

Opposing direction vol., V_o *367*veh/h

Shoulder width ft *23.0*

Lane Width ft *12.0*

Segment Length mi *0.8*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1051*	*412*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*53.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.7 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*51.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*37.0 mi/h*
		Percent free flow speed, PFFS	*72.5 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1051*	*412*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*75.0*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*23.1*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*91.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.62*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*72.5*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1018.5*
Effective width, Wv (Eq. 15-29) ft	*58.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-10.14*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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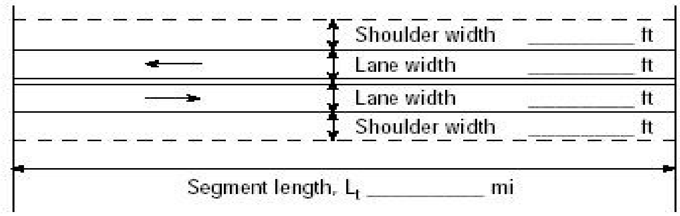
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Los Ranchos Road SB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2016*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *100%*

% Trucks and Buses , P_T *6* %

% Recreational vehicles, P_R *4%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *367*veh/h

Opposing direction vol., V_o *937*veh/h

Shoulder width ft *15.0*

Lane Width ft *12.0*

Segment Length mi *0.8*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*412*	*1051*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*48.2 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.1 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*33.8 mi/h*
		Percent free flow speed, PFFS	*73.1 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*412*	*1051*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*51.9*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*23.1*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*58.4*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.24*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*73.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*398.9*
Effective width, Wv (Eq. 15-29) ft	*42.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-2.62*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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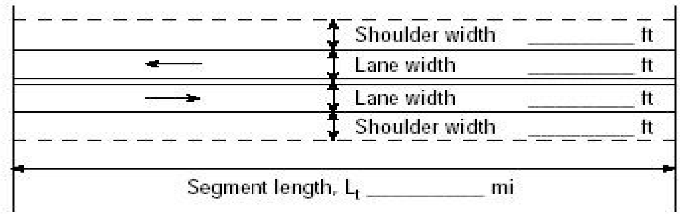
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Buckley Rd NB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2016*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Analysis direction vol., V_d	*538*veh/h
Opposing direction vol., V_o	*999*veh/h
Shoulder width ft	*8.5*
Lane Width ft	*12.0*
Segment Length mi	*0.8*
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*603*	*1121*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*47.2 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.0 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*45.2 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*30.8 mi/h*
		Percent free flow speed, PFFS	*68.1 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*603*	*1121*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*64.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*20.0*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*71.5*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.35*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*68.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*584.8*
Effective width, Wv (Eq. 15-29) ft	*29.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.19*
Bicycle level of service (Exhibit 15-4)	*B*
Notes	
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain. 2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F. 3. For the analysis direction only and for v>200 veh/h. 4. For the analysis direction only 5. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

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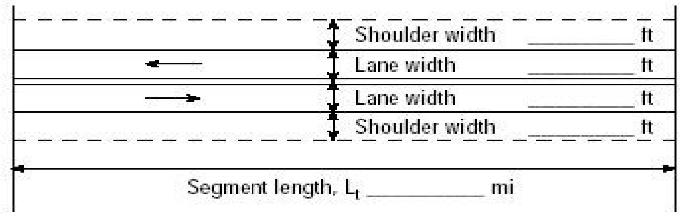
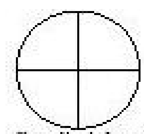
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Buckley Rd SB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2016*

Project Description: *SR 227 Operational Analysis*

Input Data





☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*999*veh/h
Opposing direction vol., V_o	*538*veh/h
Shoulder width ft	*9.5*
Lane Width ft	*12.0*
Segment Length mi	*0.8*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1121*	*603*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.8 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*43.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*27.8 mi/h*
		Percent free flow speed, PFFS	*64.7 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1121*	*603*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*77.1*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*20.0*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*90.1*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.66*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*64.7*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1085.9*
Effective width, Wv (Eq. 15-29) ft	*31.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*1.91*
Bicycle level of service (Exhibit 15-4)	*B*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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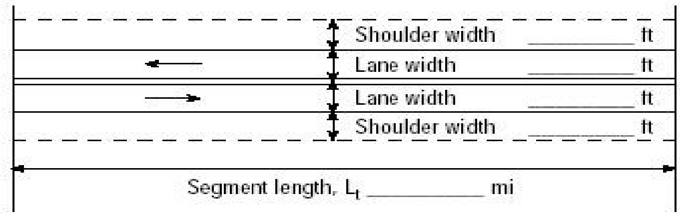
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Crestmont Dr NB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2016*

Project Description: *SR 227 Operational Analysis*

Input Data



Analysis direction vol., V_d	*571*veh/h
Opposing direction vol., V_o	*1206*veh/h
Shoulder width ft	*12.0*
Lane Width ft	*12.0*
Segment Length mi	*0.3*

☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*641*	*1353*

Free-Flow Speed from Field Measurement

Mean speed of sample[3], S_{FM}	
Total demand flow rate, both directions, *v*	
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)	
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.9 mi/h*

Estimated Free-Flow Speed

Base free-flow speed[4], BFFS	*53.0 mi/h*
Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*51.0 mi/h*
Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*34.7 mi/h*
Percent free flow speed, PFFS	*68.0 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*641*	*1353*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*68.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*15.2*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*73.4*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.38*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*68.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*620.7*
Effective width, Wv (Eq. 15-29) ft	*36.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-0.05*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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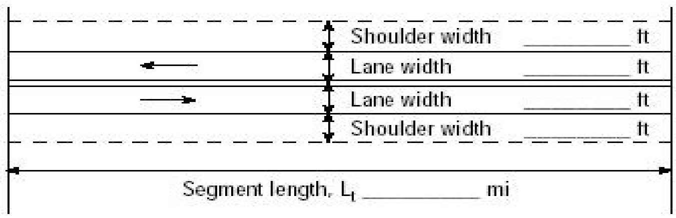
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Crestmont Dr SB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2016*

Project Description: *SR 227 Operational Analysis*

Input Data



Analysis direction vol., V_d	*1206*veh/h	Class I highway ☐ Class II highway ☑ Class III highway ☐	
Opposing direction vol., V_o	*571*veh/h	Terrain ☑ Level ☐ Rolling	
Shoulder width ft	*13.0*	Grade Length mi Up/down	
Lane Width ft	*12.0*	Peak-hour factor, PHF	*0.92*
Segment Length mi	*0.3*	No-passing zone	*100%*
		% Trucks and Buses , P_T	*6* %
		% Recreational vehicles, P_R	*4%*
		Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1353*	*641*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*48.2 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.7 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*29.0 mi/h*
		Percent free flow speed, PFFS	*62.8 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1353*	*641*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{a v_d^b}$)	*82.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*15.2*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*92.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.80*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*62.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1310.9*
Effective width, Wv (Eq. 15-29) ft	*38.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-0.41*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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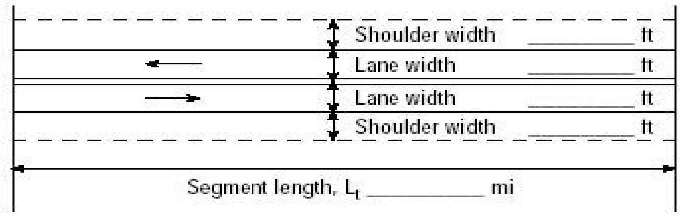
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Crestmont Dr NB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2016*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi
Analysis direction vol., V_d	*512*veh/h
Opposing direction vol., V_o	*1197*veh/h
Shoulder width ft	*43.0*
Lane Width ft	*12.0*
Segment Length mi	*0.3*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*574*	*1343*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*53.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.9 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*51.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*35.3 mi/h*
		Percent free flow speed, PFFS	*69.1 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*574*	*1343*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*65.2*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*15.6*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*69.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.34*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*69.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*556.5*
Effective width, Wv (Eq. 15-29) ft	*98.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-41.65*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

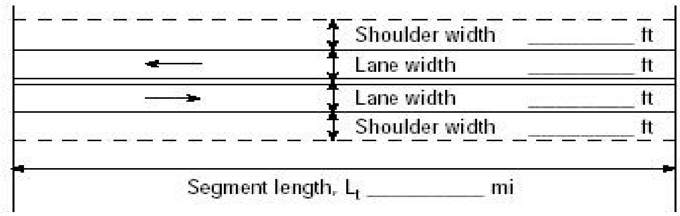
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Crestmont Dr SB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2016*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*1197*veh/h
Opposing direction vol., V_o	*512*veh/h
Shoulder width ft	*15.0*
Lane Width ft	*12.0*
Segment Length mi	*0.3*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1343*	*574*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*48.2* mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0* mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/ f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0* mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.9* mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2* mi/h
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$	*29.4* mi/h
		Percent free flow speed, PFFS	*63.6* %

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}* f_{g,PTSF})$	*1343*	*574*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*83.0*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*15.6*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF} *(v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	*93.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.79*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*63.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1301.1*
Effective width, Wv (Eq. 15-29) ft	*42.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-2.02*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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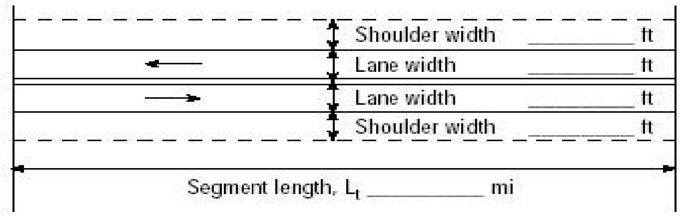
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Los Ranchos Road*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2016*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Analysis direction vol., V_d	*414*veh/h
Opposing direction vol., V_o	*1091*veh/h
Shoulder width ft	*23.0*
Lane Width ft	*12.0*
Segment Length mi	*0.8*
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*464*	*1224*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
		Base free-flow speed[4], BFFS	*53.0 mi/h*
		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Mean speed of sample[3], S_{FM}		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Total demand flow rate, both directions, *v*		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*51.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*36.9 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.0 mi/h*	Percent free flow speed, PFFS	*72.4 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*464*	*1224*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*57.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*19.4*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*62.8*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.27*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*72.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*450.0*
Effective width, Wv (Eq. 15-29) ft	*58.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-10.56*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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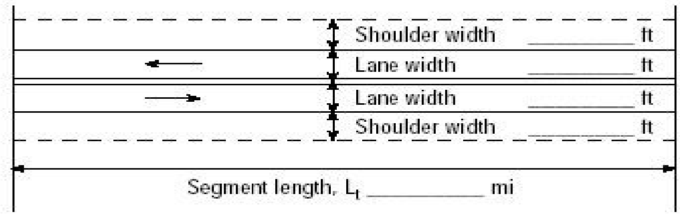
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Los Ranchos Road SB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2016*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*1091*veh/h	Grade Length mi	Up/down
Opposing direction vol., V_o	*414*veh/h	Peak-hour factor, PHF	*0.92*
Shoulder width ft	*15.0*	No-passing zone	*100%*
Lane Width ft	*12.0*	% Trucks and Buses , P_T	*6* %
Segment Length mi	*0.8*	% Recreational vehicles, P_R	*4%*
		Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF^* f_{g,ATS} * f_{HV,ATS})$	*1224*	*464*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*48.2* *mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0* *mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0* *mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.4* *mi/h*	Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*46.2* *mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*30.7* *mi/h*
		Percent free flow speed, PFFS	*66.4* *%*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF^*f_{HV,PTSF}*f_{g,PTSF})$	*1224*	*464*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*80.4*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*19.4*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*94.5*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.72*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*66.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1185.9*
Effective width, Wv (Eq. 15-29) ft	*42.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-2.06*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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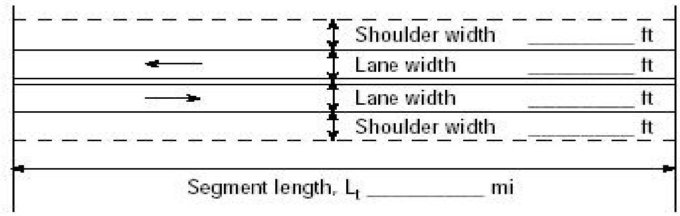
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Aaron Elias*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Buckley Rd NB*
Date Performed	*5/18/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2025*

Project Description: *SR 227 Operational Analysis*

Input Data



Analysis direction vol., V_d *1249*veh/h
Opposing direction vol., V_o *533*veh/h
Shoulder width ft *8.5*
Lane Width ft *12.0*
Segment Length mi *0.8*

☐ Class I highway ☑ Class II highway ☐ Class III highway
Terrain ☑ Level ☐ Rolling
Grade Length mi Up/down
Peak-hour factor, PHF *0.92*
No-passing zone *100%*
% Trucks and Buses , P_T *6* %
% Recreational vehicles, P_R *4%*
Access points *mi* *8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.969*	*0.975*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1401*	*594*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*47.2 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.8 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*45.2 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*27.9 mi/h*
		Percent free flow speed, PFFS	*61.7 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1401*	*598*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*83.7*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.5*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*93.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.82*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*61.7*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1357.6*
Effective width, Wv (Eq. 15-29) ft	*29.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.62*
Bicycle level of service (Exhibit 15-4)	*C*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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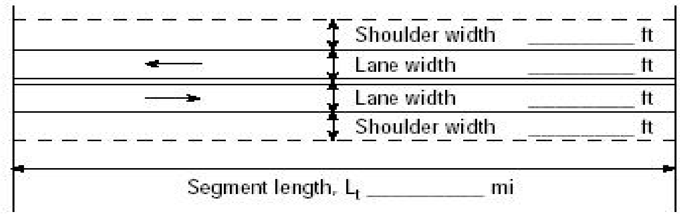
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Aaron Elias*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Buckley Rd SB*
Date Performed	*5/18/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2025*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Analysis direction vol., V_d	*533*veh/h
Opposing direction vol., V_o	*1249*veh/h
Shoulder width ft	*9.5*
Lane Width ft	*12.0*
Segment Length mi	*0.8*
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.1*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.975*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*594*	*1401*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.7 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*43.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*26.8 mi/h*
		Percent free flow speed, PFFS	*62.4 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*598*	*1401*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*66.9*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.5*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*71.2*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.35*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*62.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*579.3*
Effective width, Wv (Eq. 15-29) ft	*31.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*1.59*
Bicycle level of service (Exhibit 15-4)	*B*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If $v_i(v_d$ or $v_o)$ >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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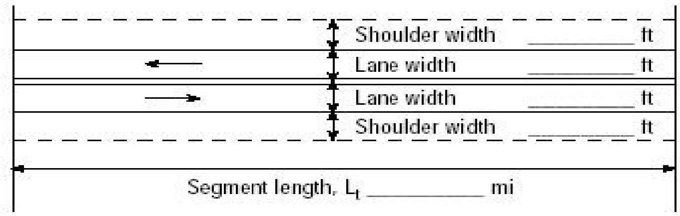
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Aaron Elias*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Crestmont Dr NB*
Date Performed	*5/18/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2025*

Project Description: *SR 227 Operational Analysis*

Input Data



Analysis direction vol., V_d *1358*veh/h

Opposing direction vol., V_o *606*veh/h

Shoulder width ft *12.0*

Lane Width ft *12.0*

Segment Length mi *0.3*

☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *100%*

% Trucks and Buses , P_T *6* %

% Recreational vehicles, P_R *4*%

Access points *mi* *8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1523*	*680*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
		Base free-flow speed[4], BFFS	*53.0* *mi/h*
		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0* *mi/h*
Mean speed of sample[3], S_{FM}		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0* *mi/h*
Total demand flow rate, both directions, *v*		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*51.0* *mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(v/ $f_{HV,ATS}$)		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*32.2* *mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.7* *mi/h*	Percent free flow speed, PFFS	*63.2* *%*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1523*	*680*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*86.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.5*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*96.5*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.90*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*63.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1476.1*
Effective width, Wv (Eq. 15-29) ft	*36.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*0.39*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

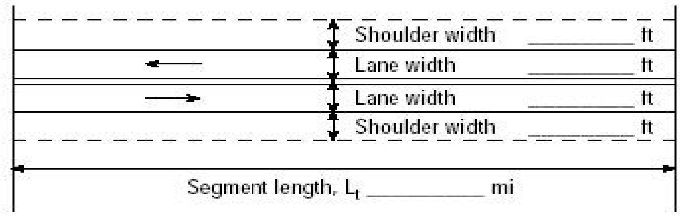
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Aaron Elias*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Crestmont Dr SB*
Date Performed	*5/18/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2025*

Project Description: *SR 227 Operational Analysis*

Input Data



Analysis direction vol., V_d *606*veh/h

Opposing direction vol., V_o *1358*veh/h

Shoulder width ft *13.0*

Lane Width ft *12.0*

Segment Length mi *0.3*

☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *100%*

% Trucks and Buses , P_T *6* %

% Recreational vehicles, P_R *4%*

Access points *mi* *8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*680*	*1523*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*48.2* mi/h
Total demand flow rate, both directions, v		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0* mi/h
Free-flow speed, FFS=S_{FM}+0.00776(v/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0* mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.6* mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2* mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*28.5* mi/h
		Percent free flow speed, PFFS	*61.6* %

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*680*	*1523*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*71.4*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.5*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	*75.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, v/c	*0.40*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*61.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*658.7*
Effective width, Wv (Eq. 15-29) ft	*38.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-0.76*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

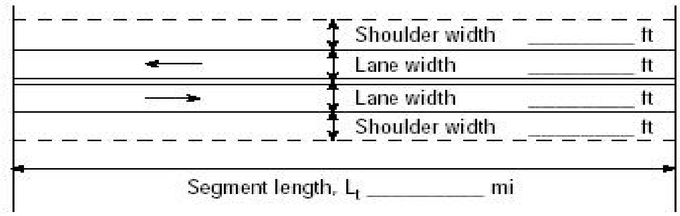
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		**Site Information**	
Analyst	*Aaron Elias*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Crestmont Dr NB*
Date Performed	*5/18/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2025*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *100%*

% Trucks and Buses , P_T *6* %

% Recreational vehicles, P_R *4*%

Access points *mi* *8*/mi

Analysis direction vol., V_d *1291*veh/h

Opposing direction vol., V_o *619*veh/h

Shoulder width ft *43.0*

Lane Width ft *12.0*

Segment Length mi *0.3*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1448*	*694*

Free-Flow Speed from Field Measurement			**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}			Base free-flow speed[4], BFFS	*53.0 mi/h*
Total demand flow rate, both directions, *v*			Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)			Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.6*	*mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*51.0 mi/h*
			Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*32.8 mi/h*
			Percent free flow speed, PFFS	*64.2 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1448*	*694*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*85.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.8*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*95.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.85*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*64.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1403.3*
Effective width, Wv (Eq. 15-29) ft	*98.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-41.18*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

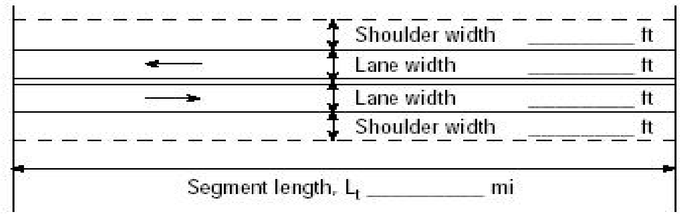
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If $v_i(v_d$ or $v_o)$ >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Aaron Elias*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Crestmont Dr SB*
Date Performed	*5/18/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2025*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Analysis direction vol., V_d	*619*veh/h
Opposing direction vol., V_o	*1291*veh/h
Shoulder width ft	*15.0*
Lane Width ft	*12.0*
Segment Length mi	*0.3*
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*694*	*1448*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*48.2 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.7 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*28.9 mi/h*
		Percent free flow speed, PFFS	*62.5 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*694*	*1448*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{a v_d^b}$)	*71.7*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.8*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*76.5*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.41*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*62.5*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*672.8*
Effective width, Wv (Eq. 15-29) ft	*42.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-2.35*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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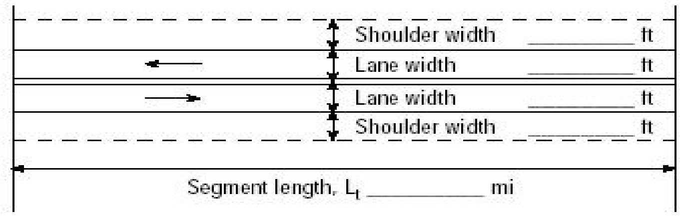
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Aaron Elias*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Los Ranchos Road NB*
Date Performed	*5/18/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2025*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*1098*veh/h
Opposing direction vol., V_o	*411*veh/h
Shoulder width ft	*23.0*
Lane Width ft	*12.0*
Segment Length mi	*0.8*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1232*	*461*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*53.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.5 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*51.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*35.4 mi/h*
		Percent free flow speed, PFFS	*69.4 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1232*	*461*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*79.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*19.4*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*93.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.72*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*69.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1193.5*
Effective width, Wv (Eq. 15-29) ft	*58.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-10.06*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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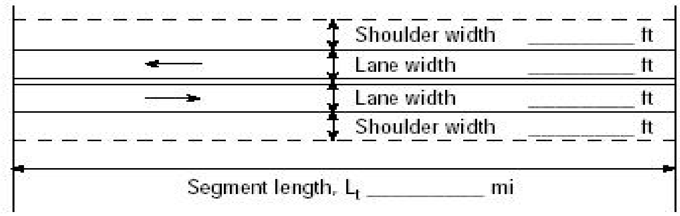
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Aaron Elias*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Los Ranchos Road SB*
Date Performed	*5/18/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2025*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *100%*

% Trucks and Buses , P_T *6* %

% Recreational vehicles, P_R *4%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *411*veh/h

Opposing direction vol., V_o *1028*veh/h

Shoulder width ft *15.0*

Lane Width ft *12.0*

Segment Length mi *0.8*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF^* f_{g,ATS} * f_{HV,ATS})$	*461*	*1153*

Free-Flow Speed from Field Measurement	**Estimated Free-Flow Speed**	
	Base free-flow speed[4], BFFS	*48.2* mi/h
Mean speed of sample[3], S_{FM}	Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0* mi/h
Total demand flow rate, both directions, *v*	Adj. for access points[4], f_A (Exhibit 15-8)	*2.0* mi/h
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2* mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) *1.0* mi/h	Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*32.7* mi/h
	Percent free flow speed, PFFS	*70.7* %

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF^*f_{HV,PTSF}^* f_{g,PTSF})$	*461*	*1153*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*56.8*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*20.2*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*62.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.27*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*70.7*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*446.7*
Effective width, Wv (Eq. 15-29) ft	*42.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-2.56*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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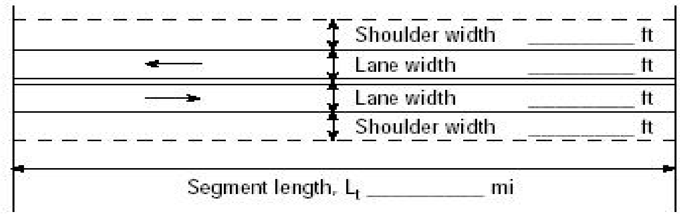
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Aaron Elias*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Buckley Rd NB*
Date Performed	*5/18/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2025*

Project Description: *SR 227 Operational Analysis*

Input Data



Analysis direction vol., V_d *630*veh/h
Opposing direction vol., V_o *1137*veh/h
Shoulder width ft *8.5*
Lane Width ft *12.0*
Segment Length mi *0.8*

☐ Class I highway ☑ Class II highway ☐ Class III highway
Terrain ☑ Level ☐ Rolling
Grade Length mi Up/down
Peak-hour factor, PHF *0.92*
No-passing zone *100%*
% Trucks and Buses , P_T *6* %
% Recreational vehicles, P_R *4%*
Access points *mi* *8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*707*	*1275*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*47.2 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.9 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*45.2 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*28.9 mi/h*
		Percent free flow speed, PFFS	*64.0 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*707*	*1275*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*70.4*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*16.4*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*76.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.42*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*64.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*684.8*
Effective width, Wv (Eq. 15-29) ft	*29.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.27*
Bicycle level of service (Exhibit 15-4)	*B*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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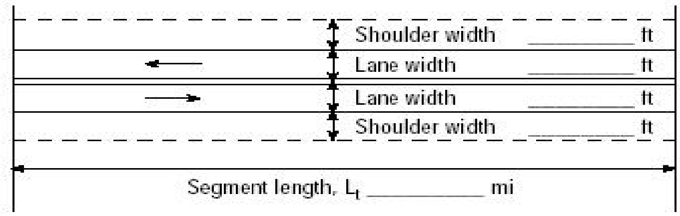
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Aaron Elias*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Buckley Rd SB*
Date Performed	*5/18/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2025*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*1137*veh/h
Opposing direction vol., V_o	*630*veh/h
Shoulder width ft	*9.5*
Lane Width ft	*12.0*
Segment Length mi	*0.8*
Grade Length mi Up/down	
Peak-hour factor, PHF	*0.92*
No-passing zone	*100*%
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4*%
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1275*	*707*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.5 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*43.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*26.1 mi/h*
		Percent free flow speed, PFFS	*60.8 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1275*	*707*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*81.8*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*16.4*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*92.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.75*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*60.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1235.9*
Effective width, Wv (Eq. 15-29) ft	*31.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*1.97*
Bicycle level of service (Exhibit 15-4)	*B*

Notes

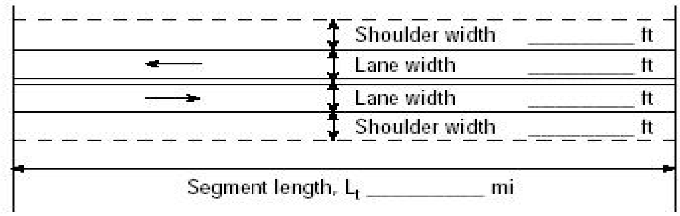
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If $v_i(v_d$ or $v_o)$ >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Aaron Elias*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Crestmont Dr NB*
Date Performed	*5/18/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2025*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Analysis direction vol., V_d	*670*veh/h
Opposing direction vol., V_o	*1399*veh/h
Shoulder width ft	*12.0*
Lane Width ft	*12.0*
Segment Length mi	*0.3*
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*752*	*1569*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*53.0* *mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0* *mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0* *mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.6* *mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*51.0* *mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*32.4* *mi/h*
		Percent free flow speed, PFFS	*63.5* *%*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*752*	*1569*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*74.7*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.3*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+f $_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*79.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.44*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*63.5*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*728.3*
Effective width, Wv (Eq. 15-29) ft	*36.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*0.03*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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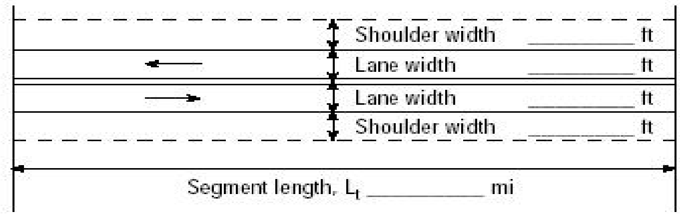
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Aaron Elias*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Crestmont Dr SB*
Date Performed	*5/18/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2025*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *100%*

% Trucks and Buses , P_T *6* %

% Recreational vehicles, P_R *4*%

Access points *mi* *8*/mi

Analysis direction vol., V_d *1399*veh/h

Opposing direction vol., V_o *670*veh/h

Shoulder width ft *13.0*

Lane Width ft *12.0*

Segment Length mi *0.3*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*1569*	*752*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*48.2* *mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0* *mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0* *mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.4* *mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2* *mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*26.8* *mi/h*
		Percent free flow speed, PFFS	*58.1* *%*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*1569*	*752*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*87.3*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.3*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*97.0*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.92*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*58.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1520.7*
Effective width, Wv (Eq. 15-29) ft	*38.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-0.34*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If $v_i(v_d$ or $v_o)$ >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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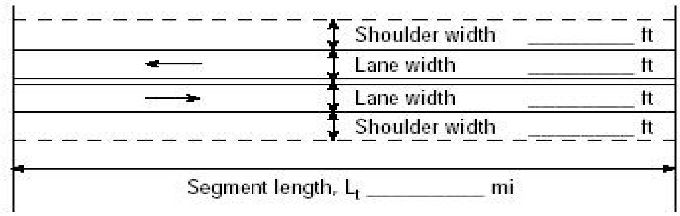
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Aaron Elias*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Crestmont Dr NB*
Date Performed	*5/18/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2025*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*601*veh/h
Opposing direction vol., V_o	*1397*veh/h
Shoulder width ft	*43.0*
Lane Width ft	*12.0*
Segment Length mi	*0.3*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4*%
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/ (1+ P_T (E_T -1)+P_R (E_R -1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i / (PHF* f_{g,ATS} * f_{HV,ATS})$	*674*	*1567*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*53.0* *mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0* *mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/ f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0* *mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.6* *mi/h*	Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*51.0* *mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS} + v_{o,ATS}) - f_{np,ATS}$	*33.0* *mi/h*
		Percent free flow speed, PFFS	*64.8* *%*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}* f_{g,PTSF})$	*674*	*1567*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*71.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.5*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF} *(v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	*75.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.40*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*64.8*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*653.3*
Effective width, Wv (Eq. 15-29) ft	*98.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-41.57*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

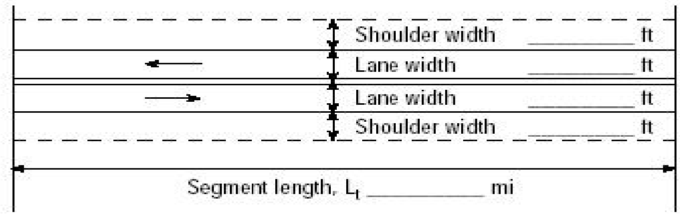
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

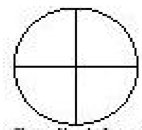
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Aaron Elias*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Crestmont Dr SB*
Date Performed	*5/18/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2025*

Project Description: *SR 227 Operational Analysis*

Input Data





☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*1397*veh/h
Opposing direction vol., V_o	*601*veh/h
Shoulder width ft	*15.0*
Lane Width ft	*12.0*
Segment Length mi	*0.3*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1567*	*674*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*48.2* mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0* mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0* mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.6* mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2* mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*27.2* mi/h
		Percent free flow speed, PFFS	*58.9* %

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1567*	*674*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*86.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.5*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*96.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.92*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*58.9*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1518.5*
Effective width, Wv (Eq. 15-29) ft	*42.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-1.94*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

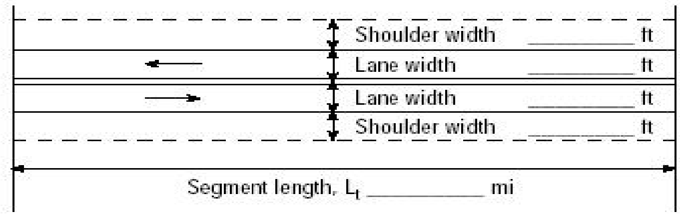
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Aaron Elias*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Los Ranchos Road*
Date Performed	*5/18/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2025*

Project Description: *SR 227 Operational Analysis*

Input Data



Analysis direction vol., V_d *485*veh/h
Opposing direction vol., V_o *1278*veh/h
Shoulder width ft *23.0*
Lane Width ft *12.0*
Segment Length mi *0.8*

☐ Class I highway ☑ Class II highway ☐ Class III highway
Terrain ☑ Level ☐ Rolling
Grade Length mi Up/down
Peak-hour factor, PHF *0.92*
No-passing zone *100%*
% Trucks and Buses , P_T *6* %
% Recreational vehicles, P_R *4%*
Access points *mi* *8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*544*	*1434*

Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed
Mean speed of sample[3], S_{FM}	Base free-flow speed[4], BFFS *53.0 mi/h*
Total demand flow rate, both directions, *v*	Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7) *0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)	Adj. for access points[4], f_A (Exhibit 15-8) *2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) *0.8 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A) *51.0 mi/h*
	Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$ *34.9 mi/h*
	Percent free flow speed, PFFS *68.4 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*544*	*1434*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*64.4*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.0*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*68.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.32*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*68.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*527.2*
Effective width, Wv (Eq. 15-29) ft	*58.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-10.48*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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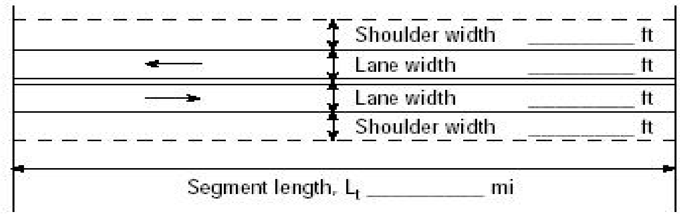
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		**Site Information**	
Analyst	*Aaron Elias*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Los Ranchos Road SB*
Date Performed	*5/18/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2025*

Project Description: *SR 227 Operational Analysis*

Input Data



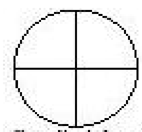
Analysis direction vol., V_d *1278*veh/h

Opposing direction vol., V_o *485*veh/h

Shoulder width ft *15.0*

Lane Width ft *12.0*

Segment Length mi *0.8*



Show North Arrow

☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *100%*

% Trucks and Buses , P_T *6* %

% Recreational vehicles, P_R *4%*

Access points *mi* *8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1434*	*544*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
		Base free-flow speed[4], BFFS	*48.2 mi/h*
		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Mean speed of sample[3], S_{FM}		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Total demand flow rate, both directions, *v*		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*28.8 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.1 mi/h*	Percent free flow speed, PFFS	*62.3 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1434*	*544*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*84.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.0*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*94.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.84*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*62.3*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1389.1*
Effective width, Wv (Eq. 15-29) ft	*42.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-1.98*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

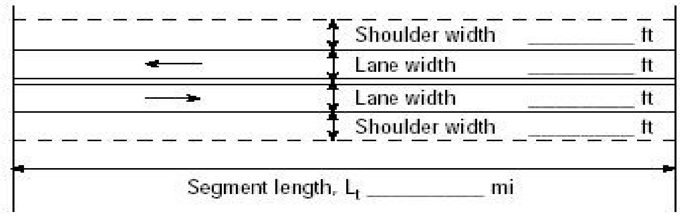
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Buckley Rd NB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2035*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *100%*

% Trucks and Buses , P_T *6* %

% Recreational vehicles, P_R *4%*

Access points *mi* *8*/mi

Analysis direction vol., V_d *1386*veh/h

Opposing direction vol., V_o *608*veh/h

Shoulder width ft *8.5*

Lane Width ft *12.0*

Segment Length mi *0.8*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1555*	*682*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*47.2 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.6 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*45.2 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*26.3 mi/h*
		Percent free flow speed, PFFS	*58.1 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1555*	*682*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*86.9*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.5*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*97.0*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.91*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*58.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1506.5*
Effective width, Wv (Eq. 15-29) ft	*29.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.67*
Bicycle level of service (Exhibit 15-4)	*C*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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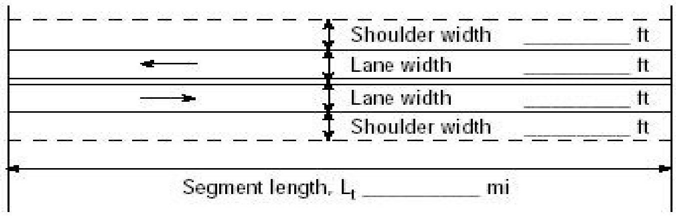
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Buckley Rd SB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2035*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*608*veh/h
Opposing direction vol., V_o	*1386*veh/h
Shoulder width ft	*9.5*
Lane Width ft	*12.0*
Segment Length mi	*0.8*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4*%
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF^* f_{g,ATS} * f_{HV,ATS})$	*682*	*1555*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.6 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*43.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*25.0 mi/h*
		Percent free flow speed, PFFS	*58.2 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF^*f_{HV,PTSF}*f_{g,PTSF})$	*682*	*1555*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*71.9*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.5*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*76.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.40*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*58.2*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*660.9*
Effective width, Wv (Eq. 15-29) ft	*31.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*1.65*
Bicycle level of service (Exhibit 15-4)	*B*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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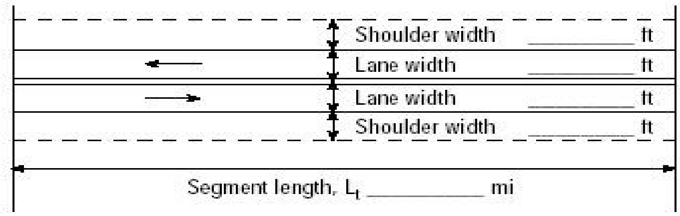
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Crestmont Dr NB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2035*

Project Description: *SR 227 Operational Analysis*

Input Data



Analysis direction vol., V_d	*1500*veh/h
Opposing direction vol., V_o	*690*veh/h
Shoulder width ft	*12.0*
Lane Width ft	*12.0*
Segment Length mi	*0.3*

☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/\ (1+ P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1683*	*774*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*53.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.4 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*51.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*30.5 mi/h*
		Percent free flow speed, PFFS	*59.9 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/\ (1+ P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1683*	*774*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*88.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.1*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*98.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.99*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*59.9*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1630.4*
Effective width, Wv (Eq. 15-29) ft	*36.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*0.44*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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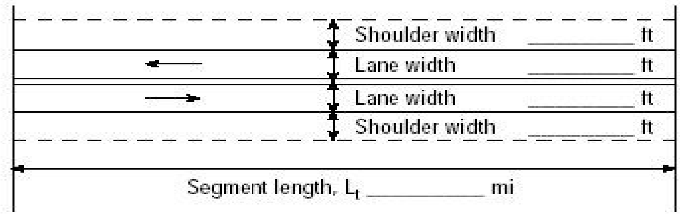
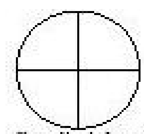
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Crestmont Dr SB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2035*

Project Description: *SR 227 Operational Analysis*

Input Data





☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*690*veh/h
Opposing direction vol., V_o	*1500*veh/h
Shoulder width ft	*13.0*
Lane Width ft	*12.0*
Segment Length mi	*0.3*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*774*	*1683*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*48.2* mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0* mi/h
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0* mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.6* mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2* mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*26.6* mi/h
		Percent free flow speed, PFFS	*57.5* %

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*774*	*1683*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*75.8*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.1*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*80.2*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.46*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*57.5*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*750.0*
Effective width, Wv (Eq. 15-29) ft	*38.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-0.70*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

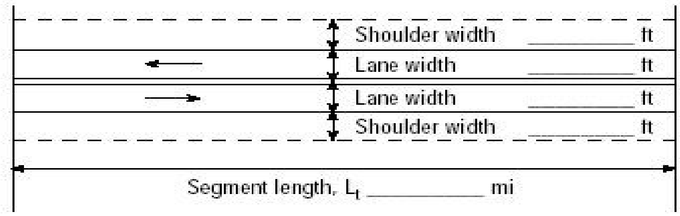
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Crestmont Dr NB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2035*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.92*

No-passing zone *100%*

% Trucks and Buses , P_T *6 %*

% Recreational vehicles, P_R *4%*

Access points *mi* *8/mi*

Analysis direction vol., V_d *1426*veh/h

Opposing direction vol., V_o *704*veh/h

Shoulder width ft *43.0*

Lane Width ft *12.0*

Segment Length mi *0.3*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1600*	*790*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*53.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.3 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*51.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*31.1 mi/h*
		Percent free flow speed, PFFS	*61.0 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1600*	*790*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*87.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*13.9*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*96.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.94*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*61.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1550.0*
Effective width, Wv (Eq. 15-29) ft	*98.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-41.13*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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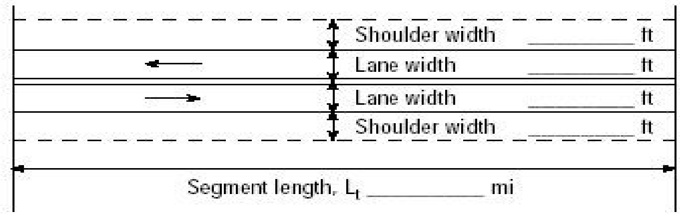
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Crestmont Dr SB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2035*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Analysis direction vol., V_d	*704*veh/h
Opposing direction vol., V_o	*1426*veh/h
Shoulder width ft	*15.0*
Lane Width ft	*12.0*
Segment Length mi	*0.3*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T (E_T -1)+P_R (E_R -1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*790*	*1600*

Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed	
	Base free-flow speed[4], BFFS	*48.2 mi/h*
	Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Mean speed of sample[3], S_{FM}	Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Total demand flow rate, both directions, *v*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)	Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*27.1 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15) *0.6 mi/h*	Percent free flow speed, PFFS	*58.6 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*790*	*1600*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*76.4*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*13.9*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*81.0*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.46*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*58.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*765.2*
Effective width, Wv (Eq. 15-29) ft	*42.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-2.29*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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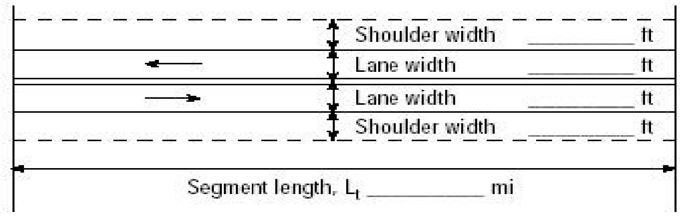
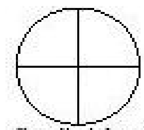
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Los Ranchos Road NB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2035*

Project Description: *SR 227 Operational Analysis*

Input Data





☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*1129*veh/h
Opposing direction vol., V_o	*460*veh/h
Shoulder width ft	*23.0*
Lane Width ft	*12.0*
Segment Length mi	*0.8*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1266*	*516*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*53.0* mi/h
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0* mi/h
Free-flow speed, FFS=S_{FM}+0.00776(v/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0* mi/h
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.2* mi/h	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*51.0* mi/h
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*34.9* mi/h
		Percent free flow speed, PFFS	*68.5* %

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1266*	*516*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*80.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*17.5*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*93.0*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.74*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*68.5*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1227.2*
Effective width, Wv (Eq. 15-29) ft	*58.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-10.05*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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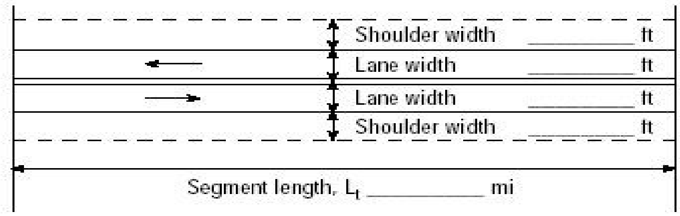
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		*Site Information*	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Los Ranchos Road SB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*AM Peak Period*	Analysis Year	*2035*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Grade Length mi Up/down

Analysis direction vol., V_d	*460*veh/h
Opposing direction vol., V_o	*1129*veh/h
Shoulder width ft	*15.0*
Lane Width ft	*12.0*
Segment Length mi	*0.8*
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF^* f_{g,ATS} * f_{HV,ATS})$	*516*	*1266*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*48.2 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.9 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*31.5 mi/h*
		Percent free flow speed, PFFS	*68.1 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF^*f_{HV,PTSF}{}^* f_{g,PTSF})$	*516*	*1266*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*61.1*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*17.5*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}{}^*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*66.2*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.30*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*68.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*500.0*
Effective width, Wv (Eq. 15-29) ft	*42.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-2.50*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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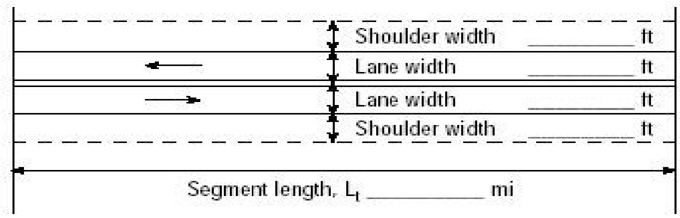
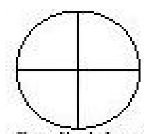
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Buckley Rd NB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2035*

Project Description: *SR 227 Operational Analysis*

Input Data





☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*732*veh/h
Opposing direction vol., V_o	*1290*veh/h
Shoulder width ft	*8.5*
Lane Width ft	*12.0*
Segment Length mi	*0.8*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*821*	*1447*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*47.2 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.7 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*45.2 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*26.9 mi/h*
		Percent free flow speed, PFFS	*59.6 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*821*	*1447*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*76.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.3*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*81.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.48*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*59.6*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*795.7*
Effective width, Wv (Eq. 15-29) ft	*29.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.35*
Bicycle level of service (Exhibit 15-4)	*B*
Notes	

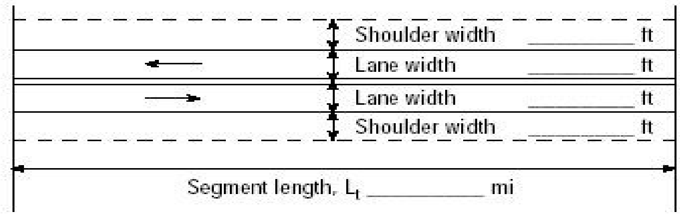
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Buckley Rd SB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2035*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*1500*veh/h
Opposing direction vol., V_o	*690*veh/h
Shoulder width ft	*9.5*
Lane Width ft	*12.0*
Segment Length mi	*0.8*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF^* f_{g,ATS} * f_{HV,ATS})$	*1683*	*774*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.3 mi/h*	Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*43.0 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*22.7 mi/h*
		Percent free flow speed, PFFS	*52.7 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF^*f_{HV,PTSF}{}^* f_{g,PTSF})$	*1683*	*774*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*88.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.1*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}{}^*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*98.3*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.99*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*52.7*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1630.4*
Effective width, Wv (Eq. 15-29) ft	*31.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.11*
Bicycle level of service (Exhibit 15-4)	*B*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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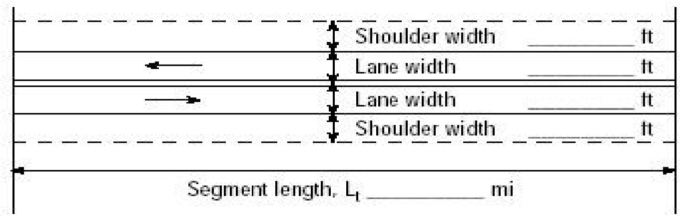
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Crestmont Dr NB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2035*

Project Description: *SR 227 Operational Analysis*

Input Data



Analysis direction vol., V_d	*780*veh/h	Class I highway ☐ Class II highway ☑ Class III highway ☐	
Opposing direction vol., V_o	*1614*veh/h	Terrain ☑ Level ☐ Rolling	
Shoulder width ft	*12.0*	Grade Length mi Up/down	
Lane Width ft	*12.0*	Peak-hour factor, PHF	*0.92*
Segment Length mi	*0.3*	No-passing zone	*100%*
		% Trucks and Buses , P_T	*6* %
		% Recreational vehicles, P_R	*4%*
		Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF^* f_{g,ATS} * f_{HV,ATS})$	*875*	*1810*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
		Base free-flow speed[4], BFFS	*53.0 mi/h*
Mean speed of sample[3], S_{FM}		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*51.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.5 mi/h*	Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*29.6 mi/h*
		Percent free flow speed, PFFS	*58.1 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF^*f_{HV,PTSF}{}^* f_{g,PTSF})$	*875*	*1810*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*79.2*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*13.4*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}{}^*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*83.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*F*
Volume to capacity ratio, *v/c*	*0.51*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*58.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*847.8*
Effective width, Wv (Eq. 15-29) ft	*36.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*0.11*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

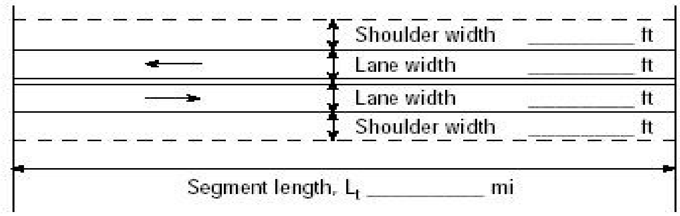
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*North of Crestmont Dr SB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2035*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*1614*veh/h
Opposing direction vol., V_o	*780*veh/h
Shoulder width ft	*13.0*
Lane Width ft	*12.0*
Segment Length mi	*0.3*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1810*	*875*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
		Base free-flow speed[4], BFFS	*48.2 mi/h*
		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Mean speed of sample[3], S_{FM}		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Total demand flow rate, both directions, *v*		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*24.2 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.2 mi/h*	Percent free flow speed, PFFS	*52.4 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1810*	*875*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*90.9*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*13.4*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*99.9*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*F*
Volume to capacity ratio, *v/c*	*1.06*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*52.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1754.3*
Effective width, Wv (Eq. 15-29) ft	*38.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-0.27*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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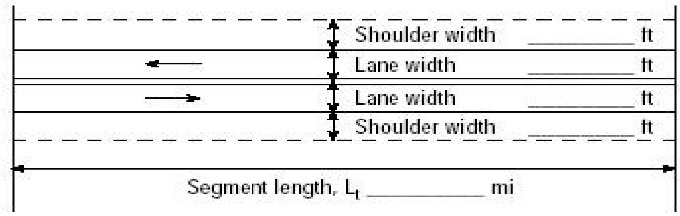
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Crestmont Dr NB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2035*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*700*veh/h
Opposing direction vol., V_o	*1620*veh/h
Shoulder width ft	*43.0*
Lane Width ft	*12.0*
Segment Length mi	*0.3*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}$=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) v_i=V_i / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*785*	*1817*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*53.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.5 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*51.0 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*30.3 mi/h*
		Percent free flow speed, PFFS	*59.3 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ P_T(E_T-1)+P_R(E_R-1))	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) v_i=V_i/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*785*	*1817*
Base percent time-spent-following[4], $BPTSF_d$(%)=100(1-$e^{av_d^b}$)	*76.2*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.4*	
Percent time-spent-following, $PTSF_d$(%)=$BPTSF_d$+$f_{np,PTSF}$ *($v_{d,PTSF}$ / $v_{d,PTSF}$ + $v_{o,PTSF}$)	*80.5*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*F*
Volume to capacity ratio, *v/c*	*0.46*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*59.3*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*760.9*
Effective width, Wv (Eq. 15-29) ft	*98.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-41.49*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

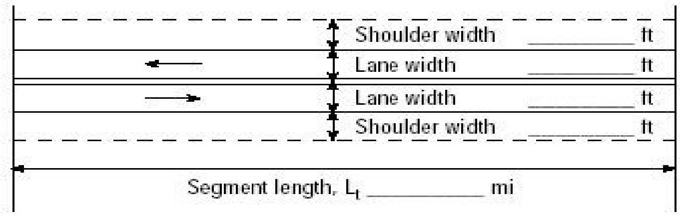
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		**Site Information**	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Crestmont Dr SB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2035*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*1602*veh/h
Opposing direction vol., V_o	*700*veh/h
Shoulder width ft	*15.0*
Lane Width ft	*12.0*
Segment Length mi	*0.3*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/\ (1+ P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i$ / (PHF* $f_{g,ATS}$ * $f_{HV,ATS}$)	*1797*	*785*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
		Base free-flow speed[4], BFFS	*48.2 mi/h*
		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Mean speed of sample[3], S_{FM}		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Total demand flow rate, both directions, *v*		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(v/ $f_{HV,ATS}$)		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*24.9 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.3 mi/h*	Percent free flow speed, PFFS	*53.9 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/\ (1+ P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i$/(PHF*$f_{HV,PTSF}$* $f_{g,PTSF}$)	*1797*	*785*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*90.1*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*14.3*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF} / v_{d,PTSF} + v_{o,PTSF})$	*100.0*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*F*
Volume to capacity ratio, *v/c*	*1.06*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*53.9*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1741.3*
Effective width, Wv (Eq. 15-29) ft	*42.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-1.87*
Bicycle level of service (Exhibit 15-4)	*A*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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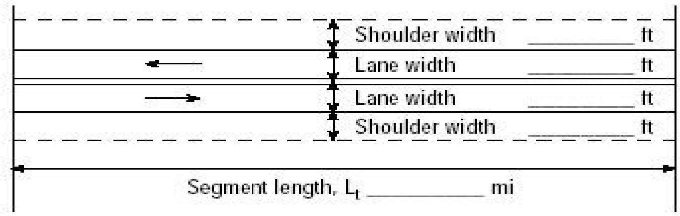
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Los Ranchos Road*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2035*

Project Description: *SR 227 Operational Analysis*

Input Data



☐ Class I highway ☑ Class II highway ☐ Class III highway

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*564*veh/h
Opposing direction vol., V_o	*1485*veh/h
Shoulder width ft	*23.0*
Lane Width ft	*12.0*
Segment Length mi	*0.8*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses, P_T	*6* %
% Recreational vehicles, P_R	*4%*
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF^* f_{g,ATS} * f_{HV,ATS})$	*633*	*1666*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*53.0* *mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0* *mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0* *mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*0.5* *mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*51.0* *mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*32.6* *mi/h*
		Percent free flow speed, PFFS	*64.0* *%*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF^*f_{HV,PTSF}^* f_{g,PTSF})$	*633*	*1666*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*70.0*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*13.6*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*73.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*D*
Volume to capacity ratio, *v/c*	*0.37*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1700*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*64.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*613.0*
Effective width, Wv (Eq. 15-29) ft	*58.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-10.40*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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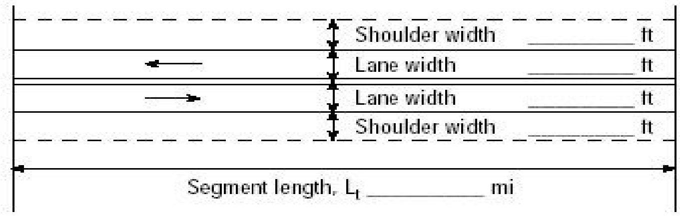
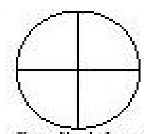
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*Sara Muse*	Highway / Direction of Travel	*SR 227*
Agency or Company	*Kittelson & Associates, Inc.*	From/To	*South of Los Ranchos Road SB*
Date Performed	*3/29/2016*	Jurisdiction	*San Luis Obispo County*
Analysis Time Period	*PM Peak Period*	Analysis Year	*2035*

Project Description: *SR 227 Operational Analysis*

Input Data





Class I highway ☐ Class II highway ☑ Class III highway ☐

Terrain ☑ Level ☐ Rolling

Analysis direction vol., V_d	*1485*veh/h
Opposing direction vol., V_o	*564*veh/h
Shoulder width ft	*15.0*
Lane Width ft	*12.0*
Segment Length mi	*0.8*
Grade Length mi	Up/down
Peak-hour factor, PHF	*0.92*
No-passing zone	*100%*
% Trucks and Buses , P_T	*6* %
% Recreational vehicles, P_R	*4*%
Access points *mi*	*8*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*1.00*	*1.00*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF^* f_{g,ATS} * f_{HV,ATS})$	*1666*	*633*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
		Base free-flow speed[4], BFFS	*48.2 mi/h*
		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Mean speed of sample[3], S_{FM}		Adj. for access points[4], f_A (Exhibit 15-8)	*2.0 mi/h*
Total demand flow rate, both directions, *v*		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*46.2 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(v/ $f_{HV,ATS}$)		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*26.6 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*1.7 mi/h*	Percent free flow speed, PFFS	*57.7 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.2*	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.5*	*1.5*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.969*	*0.969*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*1.00*	*1.00*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF^*f_{HV,PTSF}{}^* f_{g,PTSF})$	*1666*	*633*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*88.1*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*13.6*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*98.0*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*E*
Volume to capacity ratio, *v/c*	*0.98*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*0*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1700*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*57.7*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*1614.1*
Effective width, Wv (Eq. 15-29) ft	*42.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-1.91*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

APPENDIX F

MULTI-MODAL LOS WORKSHEETS

Summary Data

Intersection:	State Route 227 & Airport Drive	**Date:**	3/31/2016
Scenario:	Existing Conditions, AM Peak Hour	**Analyst:**	MYB

Step 1: Identify Crossing Type

Crossing Type	2-lane undivided
Two-stage Crossing Calcs Apply?	No
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway		Stage 1	Stage 2
L	Crossing distance (ft)	76	
S_p	Average pedestrian speed (ft/s)	3.5	
t_s	Pedestrian start-up time and end clearance time (s)	3	
t_c	Critical headway for pedestrian crossing	24.7	
Note: Platooning effects ignored. $t_{c,G}$ *assumed to equal* t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,914	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.53	
P_b	Probability of a blocked lane	1.00	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	956917.7	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	956919.6	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	0%	
Note: See table to right for default HCM 2010 yield rate data based on national research			
h	Average headway for each through lane	3.8	
n	Average number of crossing events before an adequate gap is available	254381	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		0.00E+00	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	956917.7	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	956917.7	
	Ped LOS	***F***	

Summary Data

Intersection:	State Route 227 & Airport Drive	**Date:**	3/31/2016
Scenario:	Existing Conditions, Mid-Day Peak Hour	**Analyst:**	MYB

Step 1: Identify Crossing Type

Crossing Type		2-lane undivided
Two-stage Crossing Calcs Apply?		No
Note: Two-stage crossing calculation applied at all divided roadways		

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	76	
S_p	Average pedestrian speed (ft/s)	3.5	
t_s	Pedestrian start-up time and end clearance time (s)	3	
t_c	Critical headway for pedestrian crossing	24.7	
Note: Platooning effects ignored. $t_{c,G}$ *assumed to equal* t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,204	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.33	
P_b	Probability of a blocked lane	0.98	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	11596.4	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	11599.4	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	0%	
Note: See table to right for default HCM 2010 yield rate data based on national research			
h	Average headway for each through lane	6.0	
n	Average number of crossing events before an adequate gap is available	1939	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		0.00E+00	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	11596.4	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	11596.4	
	Ped LOS	***F***	

Summary Data

Intersection:	State Route 227 & Airport Drive	**Date:**	3/31/2016
Scenario:	Existing Conditions, PM Peak Hour	**Analyst:**	MYB

Step 1: Identify Crossing Type

Crossing Type	2-lane undivided
Two-stage Crossing Calcs Apply?	No
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	76	
S_p	Average pedestrian speed (ft/s)	3.5	
t_s	Pedestrian start-up time and end clearance time (s)	3	
t_c	Critical headway for pedestrian crossing	24.7	
Note: Platooning effects ignored. $t_{c,G}$ *assumed to equal* t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,638	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.46	
P_b	Probability of a blocked lane	1.00	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	168097.2	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	168099.4	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	0%	
Note: See table to right for default HCM 2010 yield rate data based on national research			
h	Average headway for each through lane	4.4	
n	Average number of crossing events before an adequate gap is available	38242	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		0.00E+00	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	168097.2	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	168097.2
	Ped LOS	***F***

Summary Data

Intersection:	State Route 227 & Farmhouse Lane	**Date:**	4/1/2016
Scenario:	Existing Conditions, AM Peak Hour	**Analyst:**	MYB

Step 1: Identify Crossing Type

Crossing Type		2-lane undivided
Two-stage Crossing Calcs Apply?		No
Note: Two-stage crossing calculation applied at all divided roadways		

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	60	
S_p	Average pedestrian speed (ft/s)	3.5	
t_s	Pedestrian start-up time and end clearance time (s)	3	
t_c	Critical headway for pedestrian crossing	20.1	
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,863	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.52	
P_b	Probability of a blocked lane	0.99	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	65012.5	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	65014.4	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	0%	
Note: See table to right for default HCM 2010 yield rate data based on national research			
h	Average headway for each through lane	3.9	
n	Average number of crossing events before an adequate gap is available	16822	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		0.00E+00	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	65012.5	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	65012.5	
	Ped LOS	***F***	

Summary Data

Intersection:	State Route 227 & Farmhouse Lane	**Date:**	4/1/2016
Scenario:	Existing Conditions, Mid-Day Peak Hour	**Analyst:**	MYB

Step 1: Identify Crossing Type

Crossing Type	2-lane undivided
Two-stage Crossing Calcs Apply?	No

Note: Two-stage crossing calculation applied at all divided roadways

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	60	
S_p	Average pedestrian speed (ft/s)	3.5	
t_s	Pedestrian start-up time and end clearance time (s)	3	
t_c	Critical headway for pedestrian crossing	20.1	

Note: Platooning effects ignored. $t_{c,G}$ *assumed to equal* t_c

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,179	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.33	
P_b	Probability of a blocked lane	0.96	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	2214.2	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	2217.2	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	0%	

Note: See table to right for default HCM 2010 yield rate data based on national research

h	Average headway for each through lane	6.1	
n	Average number of crossing events before an adequate gap is available	363	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		0.00E+00	N/A

Note: Full iterations shown on "crossing event calculation" tab

d_p	Average pedestrian delay for each stage (s)	2214.2	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	2214.2
	Ped LOS	***F***

Summary Data

Intersection:	State Route 227 & Farmhouse Lane	**Date:**	4/1/2016
Scenario:	Existing Conditions, PM Peak Hour	**Analyst:**	MYB

Step 1: Identify Crossing Type

Crossing Type		2-lane undivided
Two-stage Crossing Calcs Apply?		No
Note: Two-stage crossing calculation applied at all divided roadways		

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	60	
S_p	Average pedestrian speed (ft/s)	3.5	
t_s	Pedestrian start-up time and end clearance time (s)	3	
t_c	Critical headway for pedestrian crossing	20.1	
Note: Platooning effects ignored. $t_{c,G}$ *assumed to equal* t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,614	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.45	
P_b	Probability of a blocked lane	0.99	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	18615.2	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	18617.4	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	0%	
Note: See table to right for default HCM 2010 yield rate data based on national research			
h	Average headway for each through lane	4.5	
n	Average number of crossing events before an adequate gap is available	4173	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		0.00E+00	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	18615.2	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	18615.2	
	Ped LOS	***F***	

Summary Data

Intersection:	State Route 227 & Kendall Road	**Date:**	4/1/2016
Scenario:	Existing Conditions, AM Peak Hour	**Analyst:**	MYB

Step 1: Identify Crossing Type

Crossing Type	2-lane undivided
Two-stage Crossing Calcs Apply?	No

Note: Two-stage crossing calculation applied at all divided roadways

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	65	
S_p	Average pedestrian speed (ft/s)	3.5	
t_s	Pedestrian start-up time and end clearance time (s)	3	
t_c	Critical headway for pedestrian crossing	21.6	

Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,730	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.48	
P_b	Probability of a blocked lane	0.99	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	66086.8	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	66088.9	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	0%	

Note: See table to right for default HCM 2010 yield rate data based on national research

h	Average headway for each through lane	4.2	
n	Average number of crossing events before an adequate gap is available	15879	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		0.00E+00	N/A

Note: Full iterations shown on "crossing event calculation" tab

d_p	Average pedestrian delay for each stage (s)	66086.8	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	66086.8
	Ped LOS	***F***

Summary Data

Intersection:	State Route 227 & Kendall Road	**Date:**	4/1/2016
Scenario:	Existing Conditions, Mid-Day Peak Hour	**Analyst:**	MYB

Step 1: Identify Crossing Type

Crossing Type	2-lane undivided
Two-stage Crossing Calcs Apply?	No
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	65	
S_p	Average pedestrian speed (ft/s)	3.5	
t_s	Pedestrian start-up time and end clearance time (s)	3	
t_c	Critical headway for pedestrian crossing	21.6	
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,065	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.30	
P_b	Probability of a blocked lane	0.96	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	1972.3	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	1975.6	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	0%	
Note: See table to right for default HCM 2010 yield rate data based on national research			
h	Average headway for each through lane	6.8	
n	Average number of crossing events before an adequate gap is available	292	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		0.00E+00	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	1972.3	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	1972.3
	Ped LOS	***F***

Summary Data

Intersection:	State Route 227 & Kendall Road	**Date:**	4/1/2016
Scenario:	Existing Conditions, PM Peak Hour	**Analyst:**	MYB

Step 1: Identify Crossing Type

Crossing Type	2-lane undivided
Two-stage Crossing Calcs Apply?	No
Note: Two-stage crossing calculation applied at all divided roadways	

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	65	
S_p	Average pedestrian speed (ft/s)	3.5	
t_s	Pedestrian start-up time and end clearance time (s)	3	
t_c	Critical headway for pedestrian crossing	21.6	

Note: Platooning effects ignored. $t_{c,G}$ *assumed to equal* t_c

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,489	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.41	
P_b	Probability of a blocked lane	0.99	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	18100.4	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	18102.8	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	0%	
Note: See table to right for default HCM 2010 yield rate data based on national research			
h	Average headway for each through lane	4.8	
n	Average number of crossing events before an adequate gap is available	3743	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		0.00E+00	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	18100.4	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

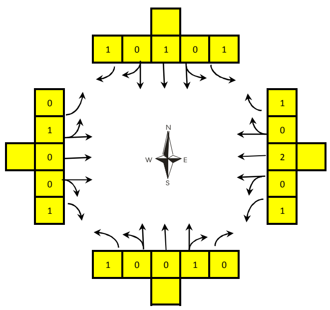
d_p	Average pedestrian delay (s)	18100.4	
	Ped LOS	***F***	

Intersection: & Buckley AM

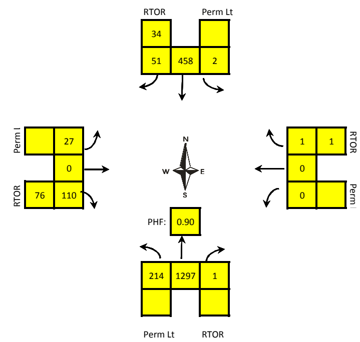
Location: State Route 227 & Buckley Road

Period: AM

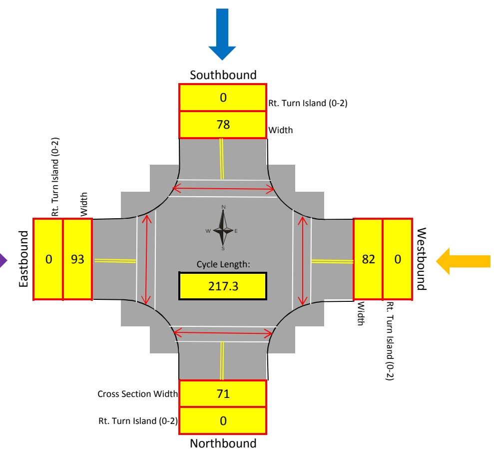
Traffic Lanes



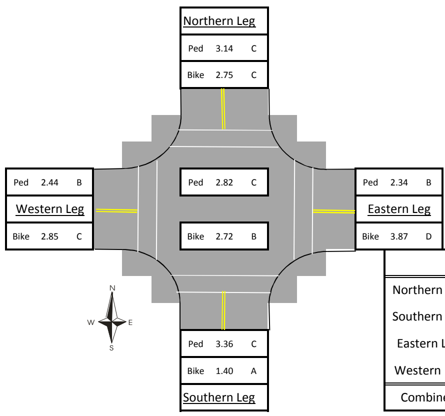
Peak Hour Volumes



HV 3%



	Outside Ln	Bike Ln	Shoulder	Prkg (Y/N)	Curb? (Y/N)	Speed Limit	Walk Time
Northbound	12	0	8	N	N	55	5
Southbound	12	0	5	N	N	55	5
Eastbound	12	0	7	N	N	40	5
Westbound	12	0	0	N	N	25	5



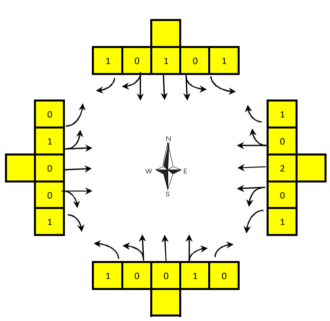
	Pedestrian		Weight	Bicycle		Weight
Northern Leg	3.14	C	25%	2.75	C	25%
Southern Leg	3.36	C	25%	1.40	A	25%
Eastern Leg	2.34	B	25%	3.87	D	25%
Western Leg	2.44	B	25%	2.85	C	25%
Combined	2.82	C	100%	2.72	B	100%

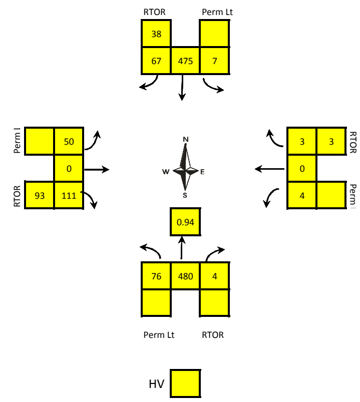
Attribute	Northern Leg	Southern Leg	Eastern Leg	Western Leg
Right Curb for Approach? (Y/N)	N	N	N	N
Parking for Approach? (Y/N)	N	N	N	N
Bike Lane Width	0	0	0	0
Shoulder Width	0	7	8	5
Outside Lane Width	12	12	12	12
Cross Street Width	78	71	82	93
# Right Turn Island	0	0	0	0
Speed Limit	55	55	25	40
Cycle Length	217.3	217.3	217.3	217.3
Walk Time	5	5	5	5
Mid-Segment Volume	1	137	1512	511
Number of Thru Lanes	2	1	1	1
Adjusted Shoulder Width	0	7	8	5
Number of Travel Lanes Crossed	4	3	5	4
Approach Volume (15-min)	128	193	0	28
Ped Delay	103.7075242	103.7075242	103.7075242	103.7075242
$I_{b,int}$	2.7539	1.3963	3.8710	2.8473
F_w	-1.3794	-2.9873	-3.0334	-2.2219
F_v	0.000916667	0.251166667	2.772	0.936833333
W_t	12	19	20	17
I_{pk}	1	1	1	1
Ip,int	3.1438	3.3636	2.3447	2.4396
Fw	1.388692044	1.197808627	1.557462842	1.388692044
Fv	0.054055	0	0.0014225	0.11949
Fs	0.9152	1.37995	0	0.1456
Fdelay	0.186127144	0.186127144	0.186127144	0.186127144
Volume RTOR+Perm Left	38	0	1	84

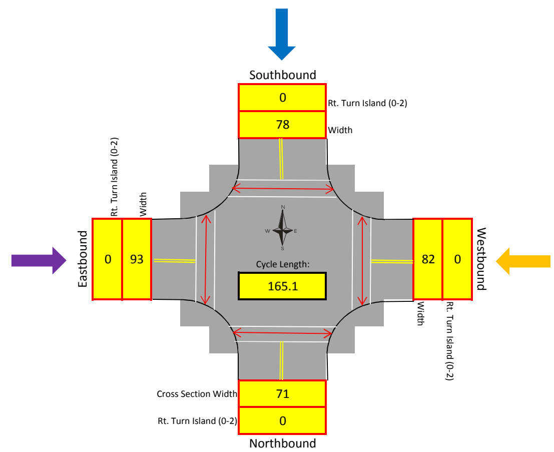
Intersection: ¿ Buckley MID

Location: State Route 227 & Buckley Road

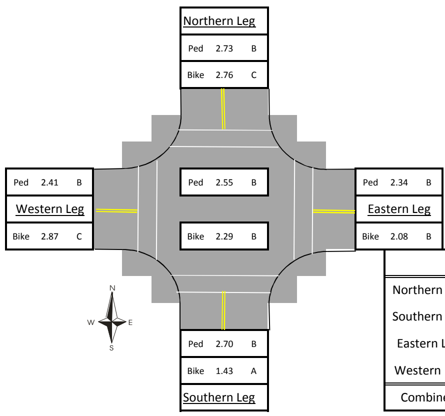
Period: Mid-Day







	Outside Ln	Bike Ln	Shoulder	Prkg (Y/N)	Curb? (Y/N)	Speed Limit	Walk Time
Northbound	12	0	8	N	N	55	5
Southbound	12	0	5	N	N	55	5
Eastbound	12	0	7	N	N	40	5
Westbound	12	0	0	N	N	25	5



	Pedestrian		Weight	Bicycle		Weight
Northern Leg	2.73	B	25%	2.76	C	25%
Southern Leg	2.70	B	25%	1.43	A	25%
Eastern Leg	2.34	B	25%	2.08	B	25%
Western Leg	2.41	B	25%	2.87	C	25%
Combined	2.55	B	100%	2.29	B	100%

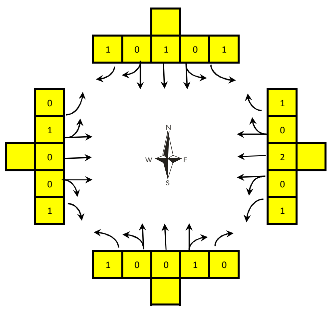
Attribute	Northern Leg	Southern Leg	Eastern Leg	Western Leg
Right Curb for Approach? (Y/N)	N	N	N	N
Parking for Approach? (Y/N)	N	N	N	N
Bike Lane Width	0	0	0	0
Shoulder Width	0	7	8	5
Outside Lane Width	12	12	12	12
Cross Street Width	78	71	82	93
# Right Turn Island	0	0	0	0
Speed Limit	55	55	25	40
Cycle Length	165.1	165.1	165.1	165.1
Walk Time	5	5	5	5
Mid-Segment Volume	7	161	560	549
Number of Thru Lanes	2	1	1	1
Adjusted Shoulder Width	0	7	8	5
Number of Travel Lanes Crossed	4	3	5	4
Approach Volume (15-min)	72	102	1	20
Ped Delay	77.62571169	77.62571169	77.62571169	77.62571169
$I_{b,int}$	2.7591	1.4277	2.0820	2.8742
F_w	-1.3794	-2.9873	-3.0334	-2.2219
F_v	0.006143617	0.282606383	0.982978723	0.963670213
W_t	12	19	20	17
I_{pk}	1	1	1	1
Ip,int	2.7346	2.7013	2.3392	2.4077
Fw	1.388692044	1.197808627	1.557462842	1.388692044
Fv	0.0569	0	0.0042675	0.1408275
Fs	0.5148	0.7293	0.00325	0.104
Fdelay	0.174511138	0.174511138	0.174511138	0.174511138
Volume RTOR+Perm Left	40	0	3	99

Intersection: ₰ Buckley PM

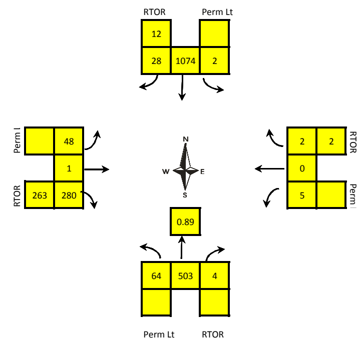
Location: State Route 227 & Buckley Road

Period: PM

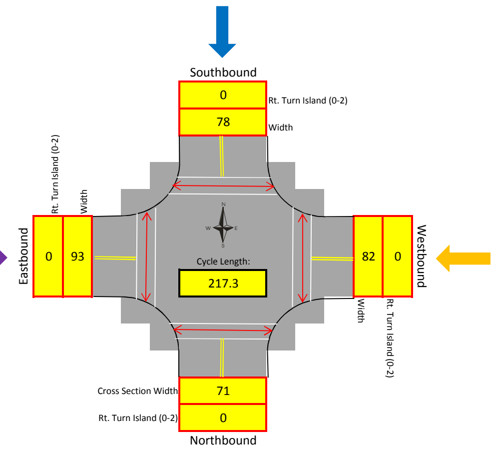
Traffic Lanes



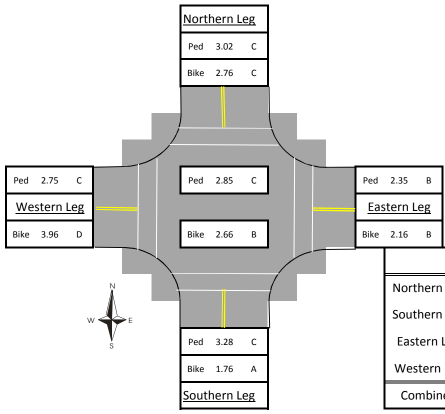
Peak Hour Volumes



HV



	Outside Ln	Bike Ln	Shoulder	Prkg (Y/N)	Curb? (Y/N)	Speed Limit	Walk Time
Northbound	12	0	8	N	N	55	5
Southbound	12	0	5	N	N	55	5
Eastbound	12	0	7	N	N	40	5
Westbound	12	0	0	N	N	25	5



	Pedestrian		Weight	Bicycle		Weight
Northern Leg	3.02	C	25%	2.76	C	25%
Southern Leg	3.28	C	25%	1.76	A	25%
Eastern Leg	2.35	B	25%	2.16	B	25%
Western Leg	2.75	C	25%	3.96	D	25%
Combined	2.85	C	100%	2.66	B	100%

Attribute	Northern Leg	Southern Leg	Eastern Leg	Western Leg
Right Curb for Approach? (Y/N)	N	N	N	N
Parking for Approach? (Y/N)	N	N	N	N
Bike Lane Width	0	0	0	0
Shoulder Width	0	7	8	5
Outside Lane Width	12	12	12	12
Cross Street Width	78	71	82	93
# Right Turn Island	0	0	0	0
Speed Limit	55	55	25	40
Cycle Length	217.3	217.3	217.3	217.3
Walk Time	5	5	5	5
Mid-Segment Volume	7	329	571	1104
Number of Thru Lanes	2	1	1	1
Adjusted Shoulder Width	0	7	8	5
Number of Travel Lanes Crossed	4	3	5	4
Approach Volume (15-min)	116	181	1	30
Ped Delay	103.7075242	103.7075242	103.7075242	103.7075242
$I_{b,int}$	2.7595	1.7550	2.1576	3.9572
F_w	-1.3794	-2.9873	-3.0334	-2.2219
F_v	0.006488764	0.60994382	1.058595506	2.046741573
W_t	12	19	20	17
I_{pk}	1	1	1	1
Ip,int	3.0224	3.2778	2.3494	2.7516
Fw	1.388692044	1.197808627	1.557462842	1.388692044
Fv	0.0184925	0	0.002845	0.42106
Fs	0.8294	1.29415	0.00325	0.156
Fdelay	0.186127144	0.186127144	0.186127144	0.186127144
Volume RTOR+Perm Left	13	0	2	296

Summary Data

Intersection:	State Route 227 & Crestmont Drive	**Date:**	4/1/2016
Scenario:	Existing Conditions, AM Peak Hour	**Analyst:**	MYB

Step 1: Identify Crossing Type

Crossing Type	2-lane undivided	
Two-stage Crossing Calcs Apply?	No	
Note: Two-stage crossing calculation applied at all divided roadways		

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	75	
S_p	Average pedestrian speed (ft/s)	3.5	
t_s	Pedestrian start-up time and end clearance time (s)	3	
t_c	Critical headway for pedestrian crossing	24.4	
Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c			

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,684	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.47	
P_b	Probability of a blocked lane	1.00	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	196176.4	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	196178.5	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	0%	
Note: See table to right for default HCM 2010 yield rate data based on national research			
h	Average headway for each through lane	4.3	
n	Average number of crossing events before an adequate gap is available	45883	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		0.00E+00	N/A
Note: Full iterations shown on "crossing event calculation" tab			
d_p	Average pedestrian delay for each stage (s)	196176.4	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	196176.4	
	Ped LOS	***F***	

Summary Data

Intersection:	State Route 227 & Crestmont Drive	**Date:**	4/1/2016
Scenario:	Existing Conditions, Mid-Day Peak Hour	**Analyst:**	MYB

Step 1: Identify Crossing Type

Crossing Type	2-lane undivided
Two-stage Crossing Calcs Apply?	No

Note: Two-stage crossing calculation applied at all divided roadways

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	75	
S_p	Average pedestrian speed (ft/s)	3.5	
t_s	Pedestrian start-up time and end clearance time (s)	3	
t_c	Critical headway for pedestrian crossing	24.4	

Note: Platooning effects ignored. $t_{c,G}$ assumed to equal t_c

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,067	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.30	
P_b	Probability of a blocked lane	0.97	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	4677.5	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	4680.8	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	0%	

Note: See table to right for default HCM 2010 yield rate data based on national research

h	Average headway for each through lane	6.7	
n	Average number of crossing events before an adequate gap is available	693	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		0.00E+00	N/A

Note: Full iterations shown on "crossing event calculation" tab

d_p	Average pedestrian delay for each stage (s)	4677.5	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

d_p	Average pedestrian delay (s)	4677.5
	Ped LOS	***F***

Summary Data

Intersection:	State Route 227 & Crestmont Drive	**Date:**	4/1/2016
Scenario:	Existing Conditions, PM Peak Hour	**Analyst:**	MYB

Step 1: Identify Crossing Type

Crossing Type	2-lane undivided
Two-stage Crossing Calcs Apply?	No

Note: Two-stage crossing calculation applied at all divided roadways

Step 2: Determine Critical Headway

		Stage 1	Stage 2
L	Crossing distance (ft)	75	
S_p	Average pedestrian speed (ft/s)	3.5	
t_s	Pedestrian start-up time and end clearance time (s)	3	
t_c	Critical headway for pedestrian crossing	24.4	

Note: Platooning effects ignored. $t_{c,G}$ *assumed to equal* t_c

Step 3: Estimate Probability of a Delayed Crossing

	Conflicting Vehicles/hr for each stage	1,811	
C	Number of lanes crossed	2	
v	Vehicular flow rate (veh/s)	0.50	
P_b	Probability of a blocked lane	1.00	
P_d	Probability of a delayed crossing	1.00	

Step 4: Calculate Average Delay to Wait for an Adequate Gap

d_g	Average pedestrian gap delay (s)	431888.2	
d_{gd}	Average gap delay for pedestrians who incur non-zero delay	431890.2	

Step 5: Estimate Delay Reduction due to Yielding Vehicles

M_y	Motorist Yield Rate	0%	

Note: See table to right for default HCM 2010 yield rate data based on national research

h	Average headway for each through lane	4.0	
n	Average number of crossing events before an adequate gap is available	108632	
$P(Y_1)$	Probability that motorists yield to pedestrian on crossing event i	0.00	
$P(Y_2)$		0.00	0.00
:			
:			
$P(Y_n)$		0.00E+00	N/A

Note: Full iterations shown on "crossing event calculation" tab

d_p	Average pedestrian delay for each stage (s)	431888.2	

Step 6: Calculate Average Pedestrian Delay and Determine LOS

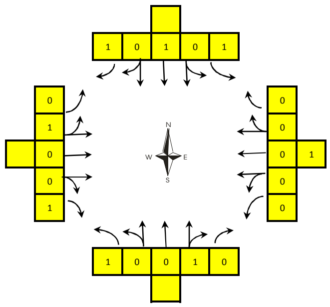
d_p	Average pedestrian delay (s)	431888.2
	Ped LOS	***F***

Intersection: .os Ranchos AM

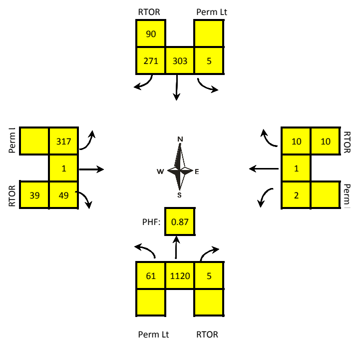
Location: State Route 227 & Los Ranchos Road

Period: AM

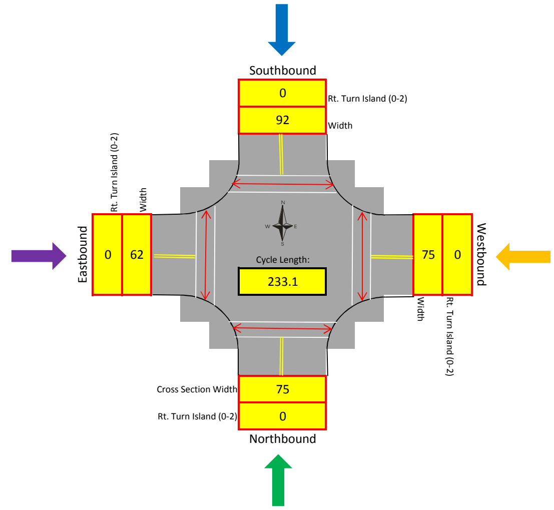
Traffic Lanes



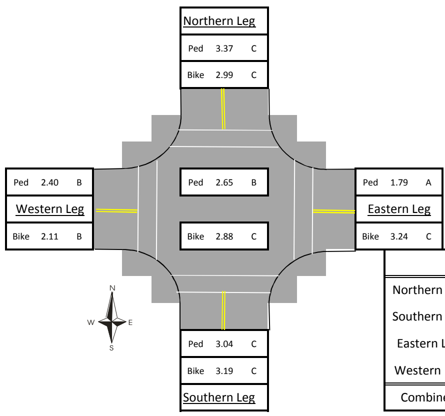
Peak Hour Volumes



HV 3%



	Outside Ln	Bike Ln	Shoulder	Prkg (Y/N)	Curb? (Y/N)	Speed Limit	Walk Time
Northbound	12	0	8	N	N	55	6
Southbound	12	0	7	N	N	55	8
Eastbound	13	0	0	N	Y	40	6
Westbound	12	0	0	N	N	25	6



	Pedestrian		Weight	Bicycle		Weight
Northern Leg	3.37	C	25%	2.99	C	25%
Southern Leg	3.04	C	25%	3.19	C	25%
Eastern Leg	1.79	A	25%	3.24	C	25%
Western Leg	2.40	B	25%	2.11	B	25%
Combined	2.65	B	100%	2.88	C	100%

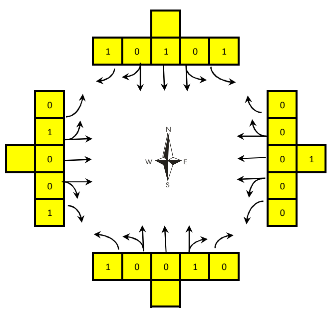
Attribute	Northern Leg	Southern Leg	Eastern Leg	Western Leg
Right Curb for Approach? (Y/N)	N	Y	N	N
Parking for Approach? (Y/N)	N	N	N	N
Bike Lane Width	0	0	0	0
Shoulder Width	0	0	8	7
Outside Lane Width	12	13	12	12
Cross Street Width	92	75	75	62
# Right Turn Island	0	0	0	0
Speed Limit	55	55	25	40
Cycle Length	233.1	233.1	233.1	233.1
Walk Time	6	6	6	8
Mid-Segment Volume	13	367	1186	579
Number of Thru Lanes	1	1	1	1
Adjusted Shoulder Width	0	0	8	7
Number of Travel Lanes Crossed	4	3	2	3
Approach Volume (15-min)	146	148	3	67
Ped Delay	110.6272201	110.6272201	110.6272201	108.6872801
$I_{b,int}$	2.9919	3.1887	3.2412	2.1055
F_w	-1.1652	-1.6397	-3.1405	-3.125
F_v	0.024655172	0.696034483	2.249310345	1.098103448
W_t	12	13	20	19
I_{pk}	1	1	1	1
Ip,int	3.3675	3.0444	1.7863	2.3979
Fw	1.388692044	1.197808627	0.97247071	1.197808627
Fv	0.1465175	0	0.0156475	0.0640125
Fs	1.0439	1.0582	0.00975	0.3484
Fdelay	0.188717263	0.188717263	0.188717263	0.188007838
Volume RTOR+Perm Left	103	0	11	45

Intersection: os Ranchos MID

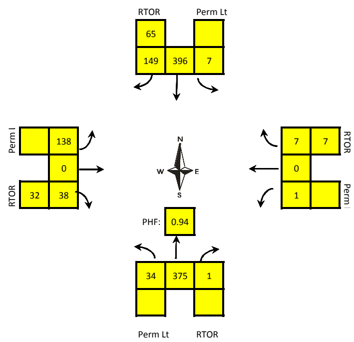
Location: State Route 227 & Los Ranchos Road

Period: Mid-Day

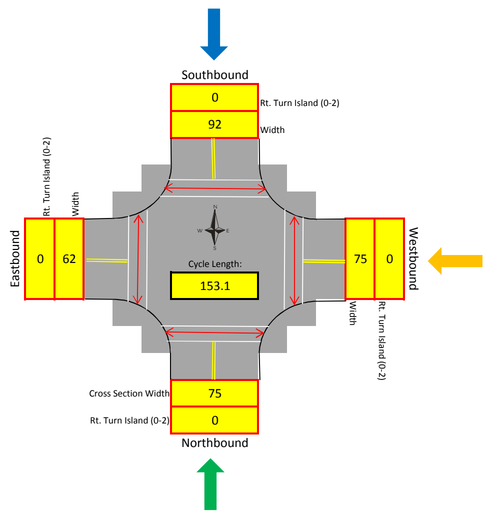
Traffic Lanes



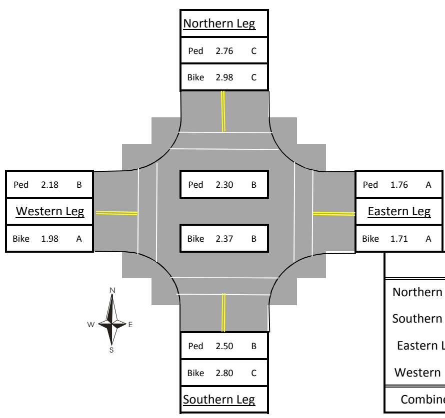
Peak Hour Volumes



HV



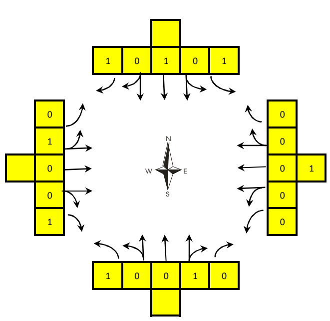
	Outside Ln	Bike Ln	Shoulder	Prkg (Y/N)	Curb? (Y/N)	Speed Limit	Walk Time
Northbound	12	0	8	N	N	55	6
Southbound	12	0	7	N	N	55	8
Eastbound	13	0	0	N	Y	40	6
Westbound	12	0	0	N	N	25	6

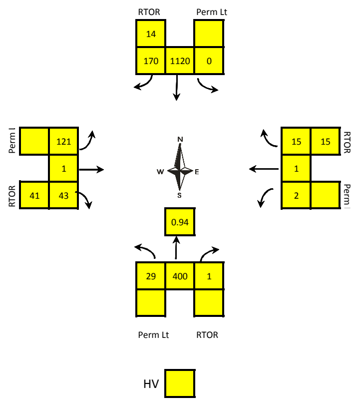


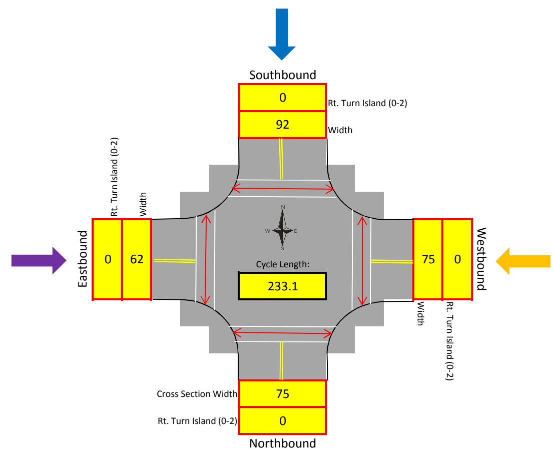
	Pedestrian		Weight	Bicycle		Weight
Northern Leg	2.76	C	25%	2.98	C	25%
Southern Leg	2.50	B	25%	2.80	C	25%
Eastern Leg	1.76	A	25%	1.71	A	25%
Western Leg	2.18	B	25%	1.98	A	25%
Combined	2.30	B	100%	2.37	B	100%

Attribute	Northern Leg	Southern Leg	Eastern Leg	Western Leg
Right Curb for Approach? (Y/N)	N	Y	N	N
Parking for Approach? (Y/N)	N	N	N	N
Bike Lane Width	0	0	0	0
Shoulder Width	0	0	8	7
Outside Lane Width	12	13	12	12
Cross Street Width	92	75	75	62
# Right Turn Island	0	0	0	0
Speed Limit	55	55	25	40
Cycle Length	153.1	153.1	153.1	153.1
Walk Time	6	6	6	8
Mid-Segment Volume	8	176	410	552
Number of Thru Lanes	1	1	1	1
Adjusted Shoulder Width	0	0	8	7
Number of Travel Lanes Crossed	4	3	2	3
Approach Volume (15-min)	71	75	2	32
Ped Delay	70.66757022	70.66757022	70.66757022	68.75901372
$I_{b,int}$	2.9812	2.8016	1.7116	1.9763
F_w	-1.1652	-1.6397	-3.1405	-3.125
F_v	0.014042553	0.30893617	0.719680851	0.96893617
W_t	12	13	20	19
I_{pk}	1	1	1	1
Ip,int	2.7649	2.5045	1.7594	2.1819
Fw	1.388692044	1.197808627	0.97247071	1.197808627
Fv	0.0981525	0	0.0099575	0.048365
Fs	0.50765	0.53625	0.0065	0.1664
Fdelay	0.17074527	0.17074527	0.17074527	0.169647374
Volume RTOR+Perm Left	69	0	7	34

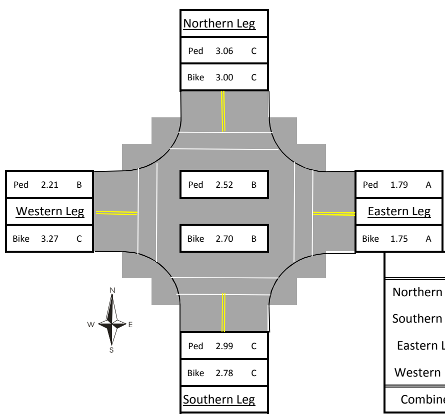
Intersection:	.os Ranchos PM
Location:	State Route 227 & Los Ranchos Road
Period:	PM







	Outside Ln	Bike Ln	Shoulder	Prkg (Y/N)	Curb? (Y/N)	Speed Limit	Walk Time
Northbound	12	0	8	N	N	55	6
Southbound	12	0	7	N	N	55	8
Eastbound	13	0	0	N	Y	40	6
Westbound	12	0	0	N	N	25	6



	Pedestrian		Weight	Bicycle		Weight
Northern Leg	3.06	C	25%	3.00	C	25%
Southern Leg	2.99	C	25%	2.78	C	25%
Eastern Leg	1.79	A	25%	1.75	A	25%
Western Leg	2.21	B	25%	3.27	C	25%
Combined	2.52	B	100%	2.70	B	100%

Attribute	Northern Leg	Southern Leg	Eastern Leg	Western Leg
Right Curb for Approach? (Y/N)	N	Y	N	N
Parking for Approach? (Y/N)	N	N	N	N
Bike Lane Width	0	0	0	0
Shoulder Width	0	0	8	7
Outside Lane Width	12	13	12	12
Cross Street Width	92	75	75	62
# Right Turn Island	0	0	0	0
Speed Limit	55	55	25	40
Cycle Length	233.1	233.1	233.1	233.1
Walk Time	6	6	6	8
Mid-Segment Volume	18	165	430	1290
Number of Thru Lanes	1	1	1	1
Adjusted Shoulder Width	0	0	8	7
Number of Travel Lanes Crossed	4	3	2	3
Approach Volume (15-min)	121	141	3	32
Ped Delay	110.6272201	110.6272201	110.6272201	108.6872801
$I_{b,int}$	2.9988	2.7823	1.7467	3.2718
F_w	-1.1652	-1.6397	-3.1405	-3.125
F_v	0.031595745	0.28962766	0.754787234	2.264361702
W_t	12	13	20	19
I_{pk}	1	1	1	1
Ip,int	3.0636	2.9944	1.7934	2.2145
Fw	1.388692044	1.197808627	0.97247071	1.197808627
Fv	0.0213375	0	0.02276	0.06259
Fs	0.86515	1.00815	0.00975	0.1664
Fdelay	0.188717263	0.188717263	0.188717263	0.188007838
Volume RTOR+Perm Left	15	0	16	44

APPENDIX G

CORRIDOR CONCEPT COST ANALYSIS

Technical Memorandum

Wallace Group

Wallace Group has worked collaboratively with Kimley-Horn to develop a planning level cost estimate format that is easy to digest, presents a considerate and comprehensive analysis of potential alternative costs, and is based on industry-accepted standards and practices. The basis of the estimate format we developed is the Caltrans 11-page cost estimate template and supporting documentation outlined in the Caltrans Project Development Procedures Manual (PDPM), Chapter 20. The result of this cooperative effort is a 1-page cost estimate format which collectively considers construction, capital support and right-of-way costs.

The 1-page estimate format allows for a planning level quantity take-off and consideration of primary construction cost contributors such as Roadway Excavation, Structures, HMA & Aggregate Base, Minor Concrete, and a Storm Water Collection System. These items are quantified and estimated based on conceptual layouts of the considered alternative(s) and are the basis for estimating supplemental work items such as Erosion Control, Traffic Control, and Water Pollution Control. While the supplemental work items are considered as percentages of the primary construction cost contributors these percentages are carefully considered and adjusted based on the level of demand anticipated from the considered alternative.

Capital support costs are estimated as percentages of the combined roadway and structure construction costs and may include costs for the following phases: Project Initiation Document (PID), Project Engineering (PA/ED and PS&E), Construction Support / Construction Management, & Right of Way Support. Potential right-of-way impact areas may be estimated based on record information for Commercial, Residential, or Undeveloped areas. The cost of the right-of-way impacts may be based on similar nearby projects or estimated based on publicly available real estate cost information.

Signalization Alternative Approach

Conceptual widening layouts for each of the five (5) intersection layouts along SR 227 were prepared in CAD format and were based on publicly available aerial and GIS data in the project vicinity. Additionally, a 5-lane widening of SR 227 was configured based on the existing roadway geometry. This CAD information was utilized as the basis for quantity take-offs for pavement widening, sidewalks, roadway excavation, and right-of-way impact areas, if any. This information was then compiled in the 1-page estimate format detailed above and was used to develop an overall planning level cost for each of the five intersection locations within the project study area.

Roundabout Alternative Approach

Roundabout alternative costs were assigned based on similar roundabout sizes and configurations. The roundabout configurations considered included a variety of completed roundabouts, roundabouts currently under design, and other conceptual roundabout configurations. Costs considered included right-of-way, capital support, construction and ongoing maintenance. This comprehensive review resulted in the ability to ascribe an overall conceptual cost to each of the five (5) intersection locations along SR 227.

SR 227 Summary of Improvements from Los Ranchos Road to Farmhouse Lane

No.	Intersection	Construction Costs	Right of Way	Capital Support Costs	Total
1	Intersection of SR 227 & Farmhouse Ln	$ 920,000	$ -	$ 330,000	**$ 1,250,000**
2	Intersection of SR 227 & Kendall Rd	$ 1,530,000	$ -	$ 540,000	**$ 2,070,000**
3	Intersection of SR 227 & Buckley Rd	$ 1,950,000	$ -	$ 690,000	**$ 2,640,000**
4	Intersection of SR 227 & Crestmont Dr	$ 1,420,000	$ -	$ 500,000	**$ 1,920,000**
5	Intersection of SR 227 & Los Ranchos Rd	$ 2,540,000	$ -	$ 890,000	**$ 3,430,000**
	Corridor Totals:	$ 8,360,000	$ -	$ 2,950,000	**$ 11,310,000**

SR 227 Intersection of SR 227 & Farmhouse Ln

Description: Includes improvements from Airport Dr east to mid-point between Farmhouse Ln and Kendall Rd. Approx. length along SR 227: 1000 ft.

Total Project Cost (2016 Dollars)	$ 1,250,000

Total Construction Costs:	$	920,000
Total Right of Way Costs:	$	-
Total Capital Support Costs:	$	330,000

Construction Costs

Roadway Items

Section	Description	Quantity	Unit	Unit Price	Cost
1	Roadway Excavation	991	CY	$ 40.00	$ 39,700
2	Hot Mix Asphalt	519	TON	$ 100.00	$ 51,900
2	Class II Aggregate Base	512	CY	$ 40.00	$ 20,500
2	HMA Dike Type A	0	LF	$ -	$ -
2	Curb and Gutter	360	LF	$ 50.00	$ 18,000
2	Sidewalk	2100	SQFT	$ 15.00	$ 31,500
3	Storm Water Collection System	3	EA	$ 10,000.00	$ 30,000
				Subtotal Section 1-3:	$ 191,600
4	Water Pollution Control	3%	of Sections 1-3		$ 6,000
4	Minor Concrete	5	CY	$ 1,500.00	$ 7,500
5	Traffic Items	10%	of Sections 1-3		$ 20,000
5	Traffic Signals	1	LS	$ 300,000.00	$ 300,000
7	Erosion Control	5%	of Sections 1-3		$ 10,000
				Subtotal Section 4-7:	$ 343,500
8	Minor Items	10%	Sect 1-7	$ 535,100	$ 54,000
9	Roadway Mobilization	10%	Sect 1-8	$ 589,100	$ 59,000
10	Supplemental Work	10%	Sect 1-8	$ 589,100	$ 59,000
10	Contingencies	35%	Sect 1-8	$ 589,100	$ 207,000
				Subtotal Sections 8-10:	$ 379,000
				Total Roadway Item Cost:	**$ 920,000**

Structure Items

Structure	Description	Quantity	Unit	Unit Price	Cost
1	N/A	0	LF	$ -	$ -
2	N/A	0	SF	$ -	$ -
3	N/A	0	SF	$ -	$ -
4	N/A	0	SF	$ -	$ -
5	N/A	0	SF	$ -	$ -
6	N/A	0	SF	$ -	$ -
				Subtotal Structure Items:	$ -
	Contingency for Structure Items:	35%		Contingency Cost	$ -
				Total Structure Item Cost:	**$ -**

Construction Cost Summary

Roadway Items	$	920,000
Structure Items	$	-
Total Construction Costs:	**$**	**920,000**

Capital Support Costs

Description	%	Cost
Project Initiation Document (PID)	5%	$ 46,000
Project Engineering (PA/ED and PS&E)	20%	$ 184,000
Construction Support / Construction Management	10%	$ 92,000
Right of Way Support	0%	$ -
Total Professional Services Cost:		**$ 330,000**

Right of Way

Parcel Type	Quantity	Unit	Unit Price	Cost
Commercial	0.00	AC	$ -	$ -
Residential	0.00	AC	$ -	$ -
Undeveloped	0.00	AC	$ 30,000.00	$ -
			Subtotal Right of Way Items:	$ -
Contingency for Right of Way Items:	25%		Contingency Cost	$ -
			Total Right of Way Cost:	**$ -**

Assumptions

1) 35% contigency assumed. Overall cost rounded to the nearest $10k.
2) For new pavement, asphalt thickness is assumed to be 10" with a unit weight of 150 pcf.
3) For new pavement, class II base is assumed to be 20".

SR 227 Intersection of SR 227 & Kendall Rd

Description: Includes improvements from 500 ft. north of Kendall Rd to 1250 ft. south of Kendall Rd along SR 227. Approx. length estimated along SR 227: 1750 ft.

Total Project Cost (2015 Dollars)	$ 2,070,000

Total Construction Costs:	$	1,530,000
Total Right of Way Costs:	$	-
Total Capital Support Costs:	$	540,000

Construction Costs

Roadway Items

Section	Description	Quantity	Unit	Unit Price	Cost
1	Roadway Excavation	2310	CY	$ 40.00	$ 92,500
2	Hot Mix Asphalt	1559	TON	$ 100.00	$ 156,000
2	Class II Aggregate Base	1540	CY	$ 40.00	$ 61,700
2	HMA Dike Type A	0	LF	$ -	$ -
2	Curb and Gutter	860	LF	$ 50.00	$ 43,000
2	Sidewalk	5150	SQFT	$ 15.00	$ 77,300
3	Storm Water Collection System	3	EA	$ 10,000.00	$ 30,000
				Subtotal Section 1-3:	$ 460,500
4	Water Pollution Control	2%	of Sections 1-3		$ 10,000
4	Minor Concrete	0	CY	$ 500.00	$ -
5	Temporary Railing (Type K)	1750	LF	$ 30.00	$ 52,500
5	Traffic Items	10%	of Sections 1-3		$ 47,000
5	Traffic Signals	1	LS	$ 300,000.00	$ 300,000
7	Erosion Control	5%	of Sections 1-3		$ 24,000
				Subtotal Section 4-7:	$ 433,500
8	Minor Items	10%	Sect 1-7	$ 894,000	$ 90,000
9	Roadway Mobilization	10%	Sect 1-8	$ 984,000	$ 99,000
10	Supplemental Work	10%	Sect 1-8	$ 984,000	$ 99,000
10	Contingencies	35%	Sect 1-8	$ 984,000	$ 345,000
				Subtotal Sections 8-10:	$ 633,000
				Total Roadway Item Cost:	**$ 1,530,000**

Structure Items

Structure	Description	Quantity	Unit	Unit Price	Cost
1	N/A	0	LF	$ -	$ -
2	N/A	0	SF	$ -	$ -
3	N/A	0	SF	$ -	$ -
4	N/A	0	SF	$ -	$ -
5	N/A	0	SF	$ -	$ -
6	N/A	0	SF	$ -	$ -
				Subtotal Structure Items:	$ -
	Contingency for Structure Items:	35%		Contingency Cost	$ -
				Total Structure Item Cost:	**$ -**

Construction Cost Summary

Roadway Items	$	1,530,000
Structure Items	$	-
Total Construction Costs:	**$**	**1,530,000**

Capital Support Costs

Description	%	Cost
Project Initiation Document (PID)	5%	$ 76,500
Project Engineering (PA/ED and PS&E)	20%	$ 306,000
Construction Support / Construction Management	10%	$ 153,000
Right of Way Support	0%	$ -
Total Professional Services Cost:		**$ 540,000**

Right of Way

Parcel Type	Quantity	Unit	Unit Price	Cost
Commercial	0.00	AC	$ -	$ -
Residential	0.00	AC	$ -	$ -
Undeveloped	0.00	AC	$ 30,000.00	$ -
			Subtotal Right of Way Items:	$ -
Contingency for Right of Way Items:	25%		Contingency Cost	$ -
			Total Right of Way Cost:	**$ -**

Assumptions

1) 35% contigency assumed. Overall cost rounded to the nearest $10k.
2) For new pavement, asphalt thickness is assumed to be 10" with a unit weight of 150 pcf.
3) For new pavement, class II base is assumed to be 20".

SR 227 Intersection of SR 227 & Buckley Rd

Description: Improvements estimated for widening of SR 227 to 5-lane roadway from 1250 ft. north of Buckley Rd to 850 ft. south. Approx. length estimated along SR 227: 2100 ft.

Total Project Cost (2015 Dollars)	$ 2,640,000

Total Construction Costs:	$	1,950,000
Total Right of Way Costs:	$	-
Total Capital Support Costs:	$	690,000

Construction Costs

Roadway Items

Section	Description	Quantity	Unit	Unit Price	Cost
1	Roadway Excavation	3852	CY	$ 40.00	$ 154,100
2	Hot Mix Asphalt	2600	TON	$ 100.00	$ 260,000
2	Class II Aggregate Base	2568	CY	$ 40.00	$ 102,800
2	HMA Dike Type A	0	LF	$ -	$ -
2	Curb and Gutter	150	LF	$ 50.00	$ 7,500
2	Sidewalk	800	SQFT	$ 15.00	$ 12,000
3	Storm Water Collection System	3	EA	$ 10,000.00	$ 30,000
				Subtotal Section 1-3:	$ 566,400
4	Water Pollution Control	2%	of Sections 1-3		$ 12,000
4	Minor Concrete	0	CY	$ 500.00	$ -
5	Temporary Railing (Type K)	4200	LF	$ 30.00	$ 126,000
5	Traffic Items	10%	of Sections 1-3		$ 57,000
5	Traffic Signals	1	LS	$ 350,000.00	$ 350,000
7	Erosion Control	5%	of Sections 1-3		$ 29,000
				Subtotal Section 4-7:	$ 574,000
8	Minor Items	10%	Sect 1-7	$ 1,140,400	$ 115,000
9	Roadway Mobilization	10%	Sect 1-8	$ 1,255,400	$ 126,000
10	Supplemental Work	10%	Sect 1-8	$ 1,255,400	$ 126,000
10	Contingencies	35%	Sect 1-8	$ 1,255,400	$ 440,000
				Subtotal Sections 8-10:	$ 807,000
				Total Roadway Item Cost:	**$ 1,950,000**

Structure Items

Structure	Description	Quantity	Unit	Unit Price	Cost
1	N/A	0	LF	$ -	$ -
2	N/A	0	SF	$ -	$ -
3	N/A	0	SF	$ -	$ -
4	N/A	0	SF	$ -	$ -
5	N/A	0	SF	$ -	$ -
6	N/A	0	SF	$ -	$ -
				Subtotal Structure Items:	$ -
	Contingency for Structure Items:	35%		Contingency Cost	$ -
				Total Structure Item Cost:	**$ -**

Construction Cost Summary

Roadway Items	$	1,950,000
Structure Items	$	-
Total Construction Costs:	**$**	**1,950,000**

Capital Support Costs

Description	%	Cost
Project Initiation Document (PID)	5%	$ 97,500
Project Engineering (PA/ED and PS&E)	20%	$ 390,000
Construction Support / Construction Management	10%	$ 195,000
Right of Way Support	0%	$ -
Total Professional Services Cost:		**$ 690,000**

Right of Way

Parcel Type	Quantity	Unit	Unit Price	Cost
Commercial	0.00	AC	$ -	$ -
Residential	0.00	AC	$ -	$ -
Undeveloped	0.00	AC	$ 30,000.00	$ -
			Subtotal Right of Way Items:	$ -
Contingency for Right of Way Items:	25%		Contingency Cost	$ -
			Total Right of Way Cost:	**$ -**

Assumptions

1) 35% contigency assumed. Overall cost rounded to the nearest $10k.
2) For new pavement, asphalt thickness is assumed to be 10" with a unit weight of 150 pcf.
3) For new pavement, class II base is assumed to be 20".

SR 227 Intersection of SR 227 & Crestmont Dr

Description: Improvements estimated for widening of SR 227 to 5-lane roadway from 550 ft. north of Crestmont Dr to 700 ft. south. Approx. length estimated along SR 227: 1250 ft.

Total Project Cost (2015 Dollars) **$ 1,920,000**

Total Construction Costs:	$	1,420,000
Total Right of Way Costs:	$	-
Total Capital Support Costs:	$	500,000

Construction Costs

Roadway Items

Section	Description	Quantity	Unit	Unit Price	Cost
1	Roadway Excavation	2713	CY	$ 40.00	$ 108,600
2	Hot Mix Asphalt	1831	TON	$ 100.00	$ 183,200
2	Class II Aggregate Base	1809	CY	$ 40.00	$ 72,400
2	HMA Dike Type A	0	LF	$ -	$ -
2	Curb and Gutter	0	LF	$ 50.00	$ -
2	Sidewalk	0	SQFT	$ 15.00	$ -
3	Storm Water Collection System	2	EA	$ 10,000.00	$ 20,000
				Subtotal Section 1-3:	$ 384,200
4	Water Pollution Control	2%	of Sections 1-3		$ 8,000
4	Minor Concrete	0	CY	$ 500.00	$ -
5	Temporary Railing (Type K)	2500	LF	$ 30.00	$ 75,000
5	Traffic Items	10%	of Sections 1-3		$ 39,000
5	Traffic Signals	1	LS	$ 300,000.00	$ 300,000
7	Erosion Control	5%	of Sections 1-3		$ 20,000
				Subtotal Section 4-7:	$ 442,000
8	Minor Items	10%	Sect 1-7	$ 826,200	$ 83,000
9	Roadway Mobilization	10%	Sect 1-8	$ 909,200	$ 91,000
10	Supplemental Work	10%	Sect 1-8	$ 909,200	$ 91,000
10	Contingencies	35%	Sect 1-8	$ 909,200	$ 319,000
				Subtotal Sections 8-10:	$ 584,000
				Total Roadway Item Cost:	**$ 1,420,000**

Structure Items

Structure	Description	Quantity	Unit	Unit Price	Cost
1	N/A	0	LF	$ -	$ -
2	N/A	0	SF	$ -	$ -
3	N/A	0	SF	$ -	$ -
4	N/A	0	SF	$ -	$ -
5	N/A	0	SF	$ -	$ -
6	N/A	0	SF	$ -	$ -
				Subtotal Structure Items:	$ -
	Contingency for Structure Items:	35%		Contingency Cost	$ -
				Total Structure Item Cost:	**$ -**

Construction Cost Summary

Roadway Items	$	1,420,000
Structure Items	$	-
Total Construction Costs:	**$**	**1,420,000**

Capital Support Costs

Description	%	Cost
Project Initiation Document (PID)	5%	$ 71,000
Project Engineering (PA/ED and PS&E)	20%	$ 284,000
Construction Support / Construction Management	10%	$ 142,000
Right of Way Support	0%	$ -
Total Professional Services Cost:		**$ 500,000**

Right of Way

Parcel Type	Quantity	Unit	Unit Price	Cost
Commercial	0.00	AC	$ -	$ -
Residential	0.00	AC	$ -	$ -
Undeveloped	0.00	AC	$ 30,000.00	$ -
			Subtotal Right of Way Items:	$ -
Contingency for Right of Way Items:	25%		Contingency Cost	$ -
			Total Right of Way Cost:	**$ -**

Assumptions

1) 35% contigency assumed. Overall cost rounded to the nearest $10k.
2) For new pavement, asphalt thickness is assumed to be 10" with a unit weight of 150 pcf.
3) For new pavement, class II base is assumed to be 20".

SR 227 Intersection of SR 227 & Los Ranchos Rd

Description: Improvements estimated for widening of SR 227 to 5-lane roadway from 850 ft. north of Crestmont Dr to taper to 2-lane roadway 1000 ft. to the south. Approx. length estimated along SR 227: 1850 ft.

Total Project Cost (2015 Dollars)	$ 3,430,000

Total Construction Costs:	$	2,540,000
Total Right of Way Costs:	$	-
Total Capital Support Costs:	$	890,000

Construction Costs

Roadway Items

Section	Description	Quantity	Unit	Unit Price	Cost
1	Roadway Excavation	4630	CY	$ 40.00	$ 185,200
1	Imported Borrow	4500	CY	$ 60.00	$ 270,000
2	Hot Mix Asphalt	3125	TON	$ 100.00	$ 312,500
2	Class II Aggregate Base	3086	CY	$ 40.00	$ 123,500
2	Curb and Gutter	0	LF	$ 50.00	$ -
2	Sidewalk	0	SQFT	$ 15.00	$ -
3	Storm Water Collection System	2	EA	$ 10,000.00	$ 20,000
				Subtotal Section 1-3:	$ 911,200
4	Water Pollution Control	2%	of Sections 1-3		$ 19,000
4	Minor Concrete	15	CY	$ 500.00	$ 7,500
5	Temporary Railing (Type K)	3700	LF	$ 30.00	$ 111,000
5	Traffic Items	10%	of Sections 1-3		$ 92,000
5	Traffic Signals	1	LS	$ 300,000.00	$ 300,000
7	Erosion Control	5%	of Sections 1-3		$ 46,000
				Subtotal Section 4-7:	$ 575,500
8	Minor Items	10%	Sect 1-7	$ 1,486,700	$ 149,000
9	Roadway Mobilization	10%	Sect 1-8	$ 1,635,700	$ 164,000
10	Supplemental Work	10%	Sect 1-8	$ 1,635,700	$ 164,000
10	Contingencies	35%	Sect 1-8	$ 1,635,700	$ 573,000
				Subtotal Sections 8-10:	$ 1,050,000
				Total Roadway Item Cost:	**$ 2,540,000**

Structure Items

Structure	Description	Quantity	Unit	Unit Price	Cost
1	N/A	0	LF	$ -	$ -
2	N/A	0	SF	$ -	$ -
3	N/A	0	SF	$ -	$ -
4	N/A	0	SF	$ -	$ -
5	N/A	0	SF	$ -	$ -
6	N/A	0	SF	$ -	$ -
				Subtotal Structure Items:	$ -
	Contingency for Structure Items:	35%		Contingency Cost	$ -
				Total Structure Item Cost:	**$ -**

Construction Cost Summary

Roadway Items	$	2,540,000
Structure Items	$	-
Total Construction Costs:	**$**	**2,540,000**

Capital Support Costs

Description	%	Cost
Project Initiation Document (PID)	5%	$ 127,000
Project Engineering (PA/ED and PS&E)	20%	$ 508,000
Construction Support / Construction Management	10%	$ 254,000
Right of Way Support	0%	$ -
Total Professional Services Cost:		**$ 890,000**

Right of Way

Parcel Type	Quantity	Unit	Unit Price	Cost
Commercial	0.00	AC	$ -	$ -
Residential	0.00	AC	$ -	$ -
Undeveloped	0.00	AC	$ 90,000.00	$ -
			Subtotal Right of Way Items:	$ -
Contingency for Right of Way Items:	25%		Contingency Cost	$ -
			Total Right of Way Cost:	**$ -**

Assumptions

1) 35% contigency assumed. Overall cost rounded to the nearest $10k.
2) For new pavement, asphalt thickness is assumed to be 10" with a unit weight of 150 pcf.
3) For new pavement, class II base is assumed to be 20".

APPENDIX H

ENVIRONMENTAL SCREENING ANALYSIS

Technical Memorandum

Rincon Consultants

San Luis Obispo Council of Governments

State Route 227 Operations Analysis

Environmental Constraints Analysis

rincon

June 2016

Environmental Scientists Planners Engineers

San Luis Obispo Council of Governments

State Route 227 Operations Analysis Environmental Constraints Analysis

Prepared for:

San Luis Obispo Council of Governments
1114 Marsh Street
San Luis Obispo, CA 93401

Rincon Consultants, Inc.
1530 Monterey Street #D
San Luis Obispo, CA 93401

June 2016

This report is printed on 50% recycled paper.

Rincon Consultants, Inc.

Environmental Scientists Planners Engineers

MEMORANDUM

☐ **Ventura**
180 North Ashwood Avenue
Ventura, California 93003
805 644 4455
FAX 644 4240

■ **San Luis Obispo**
1530 Monterey Street, Suite D
San Luis Obispo, California 93401
805 547 0900
FAX 547 0901

☐ **Carlsbad**
5135 Avenida Encinas, Suite A
Carlsbad, California 92008
760 918 9444
FAX 918 9449

☐ **Monterey**
437 Figueroa Street, Suite 203
Monterey, California 93940
831 333 0310
FAX 333 0340

☐ **Oakland**
180 Grand Avenue, Suite 400
Oakland, California 94612
510 834 4455
FAX 834 4433

☐ **Riverside**
5005 La Mart Drive, Suite 201
Riverside, California 92507
951 782 0061
FAX 782 0097

☐ **Fresno**
255 W. Fallbrook Avenue
Suite 103
Fresno, California 93711
559 228 9925

☐ **Sacramento**
4825 J Street
Suite 200
Sacramento, California 95819
916 706 1374

☐ **Los Angeles**
706 South Hill Street
Suite 1200
Los Angeles, California 90014
213 788 4842

Date: June 2, 2016

To: Jim Damkowitch, Principal Planner

Organization: Kimley-Horn, Transportation Engineering / Planning

From: Rincon Consultants, Inc.

Re: State Route 227 Operations Analysis – Environmental Constraints Analysis

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This memorandum reflects Rincon Consultants' independent Environmental Constraints analysis for the traffic improvements, including road widening, identified along a segment of State Route 227.

INTRODUCTION

The proposed traffic improvements would occur along an approximately 1.3 mile segment of State Route (SR) 227, Broad Street, Los Ranchos Road, and Union Pacific Railroad to the east and south of San Luis Obispo County-McChesney Field. The project corridor extends along SR 227 between Airport Drive and Los Ranchos Road. The SR 227 project corridor is located south of Tank Farm Road, extends southward toward Edna Road until Edna Road connects to Los Ranchos Road and continues south along Los Ranchos Road. The project corridor would also include a segment of the Union Pacific Railroad east of Edna Road and north of Biddle Ranch Road.

The project corridor is surrounded primarily by agricultural lands and low density residential land uses, although much of it remains undeveloped land. The area immediately adjacent to and east of SR 227 in the northern portion of the project corridor consists of commercial, business park, and office land uses. The San Luis Obispo County Regional Airport is located along SR 227 to the west. Beyond the City Limit south along SR 227, the project corridor is surrounded primarily by agricultural land uses, with some rural and suburban residential land uses west of SR 227. There are industrial uses to the west of SR 227 where SR 227 becomes Carpenter Canyon Road.

The purpose of this Environmental Constraints Analysis is to identify potential environmental issues within the general footprint of the suggested improvements, the type of future studies and evaluations which may need to be performed, and the required environmental document that would be required to meet California Environmental Quality Act (CEQA) and National Environmental Policy Act

(NEPA) requirements. The environmental constraints analysis is not itself intended to act as a CEQA or NEPA clearance document.

TRAFFIC IMPROVEMENT DESCRIPTION

Two corridor concepts were screened for purposes of this analysis: the Roundabout Corridor Concept and the Four-Lane Widening with Signalization Corridor Concept.

The following traffic improvements are proposed for the Roundabout Corridor Concept:

- Airport Drive: pinch off access to SR 227.
- Provide new access to SR 227 at Farmhouse Lane – convert to double-lane roundabout (200 foot taper up/down stream of intersection, with illumination, and striping for pedestrian/bicycle crossings).
- Widen SR 227 for four through lanes from Farmhouse Lane to just south of Kendall Road. (This widening would not entail any additional ROW take.)
- Restrict turn movements from Kendall Road to right-in/right-out and left-in, and provide median channelization to restrict the left-out movement.
- Buckley Road/SR 227 – convert to double-lane roundabout (200 foot taper up/down stream of intersection, with illumination, and striping for pedestrian/bicycle crossings).
- Crestmont Drive/SR 227 – convert to double-lane roundabout (200 foot taper up/down stream of intersection, with illumination). Note: striping for pedestrian/bicycle crossings is not recommended but may be required by Caltrans.
- Where feasible – encourage consolidation of private driveways south of Crestmont Drive to a single driveway furthest south. This would entail creating a small parallel driveway west of the Edna Trail alignment. Restrict turn movements from consolidated driveway to right-in/right-out and left-in, and provide median channelization to restrict the left-out movement.
- Los Ranchos Road/ SR 227 – convert to double-lane roundabout (200 foot taper up/down stream of intersection, with illumination, and striping for pedestrian/bike crossings).
- Rehabilitate pathway from Las Ranchos Road to Crestmont Drive to become part of the Edna-Price Canyon Trail. Install signage warning bicyclists of the single private driveway south of Crestmont Drive.
- Construct Edna-Price Canyon Trail from Crestmont Drive to Aero Drive.
- Install rumble strip for all mid-block sections between Airport Drive and Los Ranchos Road outside travel lane.

The following traffic improvements are proposed for the Four-Lane Widening with Signalization Corridor Concept:

- Airport Drive: pinch off access to SR 227.
- Provide new access to SR 227 at Farmhouse Lane – channelize and signalize with illumination, and striping for pedestrian/bicycle crossings. Left turn radii will accommodate U-Turns of STAA-sized vehicles (48-52 ft kingpin to rear axle).
- Widen SR 227 for two through lanes in each direction from Kendall to just south of Los Ranchos Road. Retain shared center left-turn lane. Note that the Widening alternative can either widen to the west or to the east. If the SR 227 widening occurs to the west, the Edna-Price Canyon Multi-purpose trail may be infeasible (an alternative alignment would be necessary). If the SR 227 widening occurs on the east side, would necessitate taking of prime agricultural land. It should also be noted that the southern terminus of the four-lane widening alternative would need to be prior to or immediately just south of Los Ranchos given the presence of the railroad bridge structure.
- Restrict turn movements from Kendall Road to right-in/right-out and left-in, and provide median channelization to restrict the left-out movement.

- Buckley Road/SR 227 – channelize and add striping for pedestrian/bicycle crossings). Left turn radii will accommodate U-Turns of STAA-sized vehicles (48-52 ft kingpin to rear axle).
- Crestmont Drive/SR 227 – channelize and signalize with illumination, and striping for pedestrian/bicycle crossings. Left turn radii will accommodate U-Turns of STAA-sized vehicles (48-52 feet kingpin to rear axle). Note: striping for pedestrian/bicycle crossings is not recommended but may be required by Caltrans.
- Where feasible – encourage consolidation of private driveways south of Crestmont Drive to a single driveway furthest south. This would entail creating a small parallel driveway west of the Edna Trail alignment. Restrict turn movements from consolidated driveway to right-in/right-out and left-in, and provide median channelization to restrict the left-out movement.
- Los Ranchos Road/ SR 227 – channelize and signalize with illumination, and striping for pedestrian/bicycle crossings. Left turn radii will accommodate U-Turns of STAA-sized vehicles (48-52 ft kingpin to rear axle).
- Synchronize and coordinate (using adaptive signal control) the four signals at Farmhouse, Buckley, Crestmont and Los Ranchos.
- Rehabilitate pathway on west side of SR 227 from Las Ranchos Road to Crestmont Drive to become part of the Edna-Price Canyon Trail. Install signage warning bicyclists of the single private driveway south of Crestmont Drive.
- Construct Edna-Price Canyon Trail from Crestmont Drive to Aero Drive.
- Install rumble strip for all mid-block sections between Airport Drive and Los Ranchos Road outside travel lane.

ENVIRONMENTAL CONSTRAINTS

The environmental constraints analysis describes potential constraints within an assumed disturbance area that captures improvements under both contemplated corridor concepts.

Aesthetics

Many of the proposed traffic improvements would occur on an existing roadway where grading has occurred. Roadway widening would occur within areas of existing unpaved right-of-way and would potentially impact the surrounding visual character. Furthermore, the proposed traffic improvements may increase surface glare or result in new or altered signage and street lighting. Temporary lighting during nighttime construction activity could potentially occur. The proposed traffic improvements would need to adhere to ordinances or standards set forth by Caltrans, the City of San Luis Obispo General Plan, City of San Luis Obispo Municipal Code, County of San Luis Obispo General Plan, and County of San Luis Obispo Municipal Code, which would reduce visual impacts related to new or altered signage or lighting. Figure 11 of the City of San Luis Obispo General Plan Conservation and Open Space Element identifies the area containing the portion of the proposed traffic improvements located within the San Luis Obispo City Limit as having high scenic value and the area outside the City Limit as having high or moderate scenic value. While the County of San Luis Obispo General Plan Conservation and Open Space Element suggests nearby roadways as scenic corridors, such as Orcutt Road to the east of SR 227, none of the proposed traffic improvements would occur on these suggested scenic corridors. It is anticipated that proposed improvements would be visually consistent with existing transportation facilities in the corridor. Furthermore, SR 227 is not considered a scenic highway by the California Department of Transportation. Therefore, the proposed improvements would not substantially affect a scenic vista or scenic character.

Agriculture and Forest Resources

The proposed traffic improvements would involve improvements to existing roadways that are already disturbed and paved, but would involve road widenings. According to the California Department of Conservation Important Farmland Finder, prime farmland and farmland of statewide importance is located immediately adjacent to and east of Edna Road. If disturbance were to occur outside existing right-of-way, impacts to agricultural resources may pose an environmental constraint.

Air Quality

The net operational effect of the proposed traffic improvements would be to improve traffic flow along the project corridor by modifying the existing roadway geometry. This would reduce operation air contaminant emissions compared to existing conditions. Only temporary air contaminant emissions would be generated during construction. Standard roadway construction equipment would emit Ozone pre-cursors. Odors typically associated with construction activity, such as fresh tar or new pavement, may occur at the location of roadway widening, but would be temporary in nature. Particulate matter emissions would primarily be experienced during construction. Implementation of best management practices would be implemented to ensure construction activities do not adversely impact adjacent uses. The project would be consistent with the San Luis Obispo County Air Pollution Control District Clean Air Plan.

Biological Resources

Many of the proposed traffic improvements would be immediately adjacent to vacant, undeveloped land. According to Figure 2 of the City of San Luis Obispo Conservation and Open Space Element, the proposed traffic improvements would potentially occur near habitats for Southwestern Pond Turtle. The Southwestern Pond Turtle is considered by the City of San Luis Obispo to be a species of local concern, and is identified by the California Department of Fish and Wildlife as a Specific of Special Concern. No aquatic habitat that could contain potential habitat for the Southwestern Pond Turtle are located near the proposed improvements. According to Figure BR-5 of the County of San Luis Obispo General Plan Conservation and Open Space Element, no critical habitat for special-status species has been identified within or near the project site. San Luis Obispo Creek and Laguna Creek are located 2 miles west and 2.5 miles northwest respectively from the nearest proposed traffic improvements. Regarding other potential biological habitats, there are several trees along SR 227, especially near Tank Farm Road, that may be disturbed by the proposed traffic improvements. Any traffic improvement undergoing discretionary approval would be required to adhere to applicable policies of both the City and County of San Luis Obispo’s respective Conservation Elements, which would require the traffic improvements to be designed to avoid disturbance or fragmentation of important habitats to the extent reasonably feasible. Where avoidance is not possible, the project would be required to mitigate the effects of important habitat loss and fragmentation.

Cultural Resources

The project corridor is located within previously disturbed right-of-way and land developed for roadways. No structures are located within the potential disturbance area of the project, so no disturbance of buildings of historic or cultural significance would occur. However, roadway widenings along SR 227 may cause previously unknown paleontological or archaeological resources to be unearthed or disturbed. As indicated in Figure 1 of the City of San Luis Obispo Conservation and Open Space Element, burial sensitivity areas may occur near the intersection of Tank Farm Road and SR 227. Figure CR-1 of the County of San Luis Obispo General Plan Conservation and Open Space Element identifies historical and cultural resources along the project corridor. A Phase I Cultural Resources Assessment should be conducted prior to site grading.

Geology and Soils

The proposed traffic improvements would be located on existing roadways and adjacent right-of-way. Map 2 of the County of San Luis Obispo Safety Element shows inferred, moderately constrained, and well constrained quaternary faults near the project site. According to the Earthquake Faults – Local Area map of the City of San Luis Obispo Safety Element, the Los Osos Fault zone mapped by the California Division of Mines and Geology is located approximately 4.5 miles to the northwest of the proposed traffic improvements. Both active and potentially active fault lines exist to the northwest, west, and south of the proposed traffic improvements. The proposed traffic improvements could potentially be impacted by seismic activity from the Los Osos Fault.

According to Figure 5 of the City of San Luis Obispo Safety Element, the vicinity of the proposed traffic improvements would be subject to high liquefaction potential along SR 227 north of San Luis Obispo County Regional Airport. Map 3 of the County of San Luis Obispo Safety Element shows low potential for liquefaction risk on the project site. The City of San Luis Obispo Safety Element does not identify areas of high landslide potential within the vicinity of the proposed traffic improvements. Map 4 of the County of San Luis Obispo Safety Element shows low potential for landslide risk near the project site. Furthermore, the land immediately adjacent to the proposed traffic improvements is relatively flat and would not be subject to risk from unstable slopes and soils as a result of grading of existing natural slopes. Compliance with applicable California Building Code (CBC) would ensure that proposed facilities would be designed to address seismic hazards.

Greenhouse Gas Emissions

The use of construction equipment during grading and construction would temporarily emit greenhouse gasses. However, the quantity of pollutants emitted would not exceed thresholds established by the San Luis Obispo County Air Pollution Control District. Overall, the project's potential to improve vehicle flows in the SR 227 corridor would have a beneficial impact with respect to greenhouse gas emissions.

Hazards and Hazardous Materials

According to the Geotracker database, hazardous sites do not occur within the vicinity of the proposed traffic improvements. Several Leaking Underground Storage Tank (LUST) Cleanup Sites are located in or near the San Luis Obispo County Regional Airport. These cases are all closed. There are no active LUST or listed Permitted Underground Storage Tank (UST) facilities within the vicinity of the proposed traffic improvements. Therefore the proposed traffic improvements are unlikely to cause the release of or exposure to harmful hazardous materials.

Any developed property has the potential for soil contamination due to operation of motor vehicles and use of solvents, pesticides and other materials that could have been spilled over the years. Nevertheless, given the location of the project corridor adjacent to the airport and other industrial uses, and the historic travel within the corridor that could have resulted in residual quantities of contaminants in soils within the right-of-way, a Phase I Environmental Site Assessment of the disturbance area should be prepared. If contamination beyond actionable levels is identified, it should be remediated in accordance with existing federal, state, and local regulations prior to project grading.

According to fire hazard maps provided by the County of San Luis Obispo, the proposed traffic improvements would occur in an area subject to low fire hazard. Although construction of the improvements have the potential to temporarily limit access to the existing adjacent uses, significant access restrictions are not anticipated to the extent where they would limit emergency access or interfere with an adopted emergency response plan. A construction staging plan should be reviewed and approved prior to the commencement of construction activities to ensure that proper access to all existing uses is maintained throughout construction.

Hydrology and Water Resources

The majority of the existing project corridor is currently paved. Paved surfaces accumulate pollutants such as deposits of oil, grease, and other vehicle fluids and hydrocarbons. Traces of heavy metals deposited on streets and parking areas from auto operation and/or fall out of airborne contaminants are common urban surface water pollutants. During storm events, these pollutants would be transported by runoff into storm drain systems and ultimately into the regional watershed. The proposed traffic improvements would not directly facilitate the generation of additional vehicles, as they are primarily designed to more efficiently convey traffic. Moreover, the improvements are not associated with any changes to the existing land uses. Nevertheless, the project would increase the area of impervious surfaces, which would increase flow velocities and the potential for contaminant runoff. In addition, runoff coming in contact with construction areas could introduce urban pollutants into the watershed. The proposed improvements would be subject to National Pollutant Discharge Elimination System (NPDES) Permit requirements, depending on the square footage of new impervious surface that would be created and/or replaced as a result of those proposed projects. Furthermore, under Chapter 8.68 of the County of San Luis Obispo Municipal Code and Chapter 12.08 of the City of San Luis Obispo Municipal Code, implementation of appropriate Best Management Practices (BMPs) would be required for any traffic improvements to prevent potential discharge from the site of pollutants, soil, or construction wastes or debris, including contaminants from construction materials, tools, and equipment to a stormwater facility. Bio-filtration or other contaminant reduction measures may be required for long-term operations.

According to FEMA flood maps 06079C13322G and 06079C1355G, two small segments of SR 227 intersect with the 100-year flood hazard zone. Therefore, flood hazard risk could be an environmental constraint for a small portion of the proposed traffic improvements. According to the Dam Failure Inundation Map produced by the Geographic Technology Section of the County of San Luis Obispo Department of Planning & Building, the proposed traffic improvements would not be subject to dam failure inundation risk.

Mineral Resources

According to maps produced by the Geographic Technology Section of the County of San Luis Obispo Department of Planning & Building, naturally occurring serpentine rock exists within the vicinity of the proposed traffic improvements to the west and south. However, the proposed traffic improvements would not result in disturbance to areas containing serpentine rock.

Noise

The roadway improvements proposed along the SR 227 corridor would not result in the expansion of any existing land uses, nor would the improvements increase motor vehicle trips along the roadway segment. Since no increase in motor vehicle trips would occur, the roadway noise level would remain the same. The widening of the travel corridor would place roadway noise sources in slightly closer proximity to adjacent off-site receptors. Sensitive receptors that would be potentially impacted by increased roadway noise along Los Ranchos Road and/or SR 227 would include single-family residences along Los Ranchos Road. Given that the existing sensitive receptors are in the vicinity of a railroad to the east, the San Luis Obispo County Regional Airport to the north, and traffic travelling at 45 miles per hour on SR 227, existing ambient noise levels at these receptors are relatively high. Increases in traffic noise due to the proposed traffic improvements, as compared to existing vehicle volumes and associated noise levels, would be unlikely to significantly increase noise levels beyond acceptable standards. Nevertheless, a traffic and noise study may be necessary to identify potential noise level increases and impacts as a result of the placement of noise sources closer to receptors as a result of corridor improvements, and due to redirected traffic. If it is found that noise levels would increase beyond acceptable levels under the City and County of San Luis Obispo noise thresholds, sound walls, barriers, or other such sound attenuation features may be needed to mitigate noise impacts.

Construction of the proposed traffic improvements would entail site grading and building activities. Construction-related activities associated with the proposed traffic improvements have the potential to create temporary noise and groundborne vibration in the immediate vicinity of the project corridor. The maximum anticipated noise levels associated with temporary construction activities would likely range between 78 and 84 decibels (dB). The generation of construction noise would be temporary and would be limited to normal business hours. Temporary sound barriers or other noise mitigations may be necessary during construction to prevent significant impacts to adjacent residences west of SR 227 and along Los Ranchos Road.

Population and Housing

The proposed traffic improvements would involve the construction of roadway improvements. The traffic improvements would not displace any existing housing or residents. While the proposed traffic improvements would improve traffic flows in the corridor, the existing traffic conditions in the corridor would not be considered a current impediment to development. Accordingly, the proposed improvements would not be growth-inducing.

Transportation/Traffic

The proposed traffic improvements are intended to improve traffic flows within the SR 227 corridor. The proposed traffic improvements would address the current and anticipated deficiencies in the overall circulation system. The proposed roadway improvements would not impact air traffic. The end result of the improvements would be beneficial with respect to traffic flow, and would therefore be consistent with the City and County of General Plan Circulation Elements. The project would also help to achieve specific intersection level of service performance standards.

Access to certain land uses could be limited temporarily during construction. However, any potential access limitations could be remedied through the preparation of an appropriate construction staging plan. The construction staging plan would need to ensure that minimal emergency access to all existing land uses would be maintained throughout construction. As part of building and safety plan review, the Fire Department would ensure that required fire protection safety features, including adequate emergency access, are implemented. Upon construction of an adequate construction staging plan approved by the City of San Luis Obispo Building and Safety Department and County of San Luis Obispo Emergency Services Department, the project would not result in impacts to emergency access.

CONCLUSION

The constraints described above are considered minor issues and could be resolved during the final design development stage. Assuming no prime farmland or agricultural land of statewide importance, flood hazard areas, or cultural resources are identified within the project area, and that feasible mitigation would be available for any identified noise impacts, the appropriate level of environmental analysis under CEQA would be an Initial Study-Mitigated Negative Declaration.

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APPENDIX I

ALTERNATIVE CORRIDOR ANALYSIS WORKSHEETS

INTERSECTION LOS WORKSHEETS
&
95th PERCENTILE QUEUE REPORT
&
SIDRA NETWORK LOS WORKSHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	0	3	0	84	4	1355	50	110	666	4
Future Volume (vph)	1	0	0	3	0	84	4	1355	50	110	666	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00			1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00			1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00			1.00	0.85		1.00	0.99		1.00	1.00	
Flt Protected	0.95			0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770			1805	1524		1770	3487		1805	3372	
Flt Permitted	0.95			0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770			1805	1524		1770	3487		1805	3372	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	0	0	3	0	88	4	1426	53	116	701	4
RTOR Reduction (vph)	0	0	0	0	83	0	0	2	0	0	0	0
Lane Group Flow (vph)	1	0	0	3	5	0	4	1477	0	116	705	0
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	0%	2%	6%	2%	3%	0%	0%	7%	2%
Turn Type	Prot			Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.8			2.7	5.2		1.3	54.6		13.4	66.7	
Effective Green, g (s)	0.8			2.7	5.2		1.3	54.6		13.4	66.7	
Actuated g/C Ratio	0.01			0.03	0.06		0.01	0.61		0.15	0.74	
Clearance Time (s)	4.0			4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	15			54	88		25	2115		268	2499	
v/s Ratio Prot	0.00			c0.00	c0.00		0.00	c0.42		c0.06	0.21	
v/s Ratio Perm												
v/c Ratio	0.07			0.06	0.06		0.16	0.70		0.43	0.28	
Uniform Delay, d1	44.2			42.4	40.1		43.8	12.1		34.8	3.8	
Progression Factor	1.00			1.00	1.00		1.38	0.26		1.00	1.00	
Incremental Delay, d2	1.9			0.4	0.3		2.5	1.6		1.1	0.3	
Delay (s)	46.1			42.8	40.4		63.2	4.8		36.0	4.1	
Level of Service	D			D	D		E	A		D	A	
Approach Delay (s)		46.1			40.4			5.0			8.6	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	1					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	0	22	1386	59	112	554
Future Vol, veh/h	0	22	1386	59	112	554
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	2	3	3	5
Mvmt Flow	0	23	1459	62	118	583

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2017	761	0	0	1521	0
Stage 1	1490	-	-	-	-	-
Stage 2	527	-	-	-	-	-
Critical Hdwy	6.8	7.08	-	-	4.16	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.39	-	-	2.23	-
Pot Cap-1 Maneuver	52	333	-	-	430	-
Stage 1	177	-	-	-	-	-
Stage 2	562	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	38	333	-	-	430	-
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	177	-	-	-	-	-
Stage 2	408	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.6	0	2.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	333	430	-
HCM Lane V/C Ratio	-	-	0.07	0.274	-
HCM Control Delay (s)	-	-	16.6	16.5	-
HCM Lane LOS	-	-	C	C	-
HCM 95th %tile Q(veh)	-	-	0.2	1.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	0	112	0	0	1	215	1421	1	2	538	54
Future Volume (vph)	27	0	112	0	0	1	215	1421	1	2	538	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.0		3.5	6.4		3.7	6.4	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.86		1.00	1.00		1.00	0.99	
Flt Protected		0.95	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1626	1455		822		1770	3539		1805	3338	
Flt Permitted		0.95	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1626	1455		822		1770	3539		1805	3338	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	0	122	0	0	1	234	1545	1	2	585	59
RTOR Reduction (vph)	0	0	113	0	1	0	0	0	0	0	6	0
Lane Group Flow (vph)	0	29	9	0	0	0	234	1546	0	2	638	0
Confl. Bikes (#/hr)									4			2
Heavy Vehicles (%)	11%	0%	11%	0%	0%	100%	2%	2%	0%	0%	6%	11%
Turn Type	Split	NA	Perm		NA		Prot	NA		Prot	NA	
Protected Phases	4	4			3		1	6		5	2	
Permitted Phases			4	3								
Actuated Green, G (s)		7.0	7.0		1.0		18.9	62.7		1.0	45.0	
Effective Green, g (s)		7.0	7.0		1.0		18.9	62.7		1.0	45.0	
Actuated g/C Ratio		0.08	0.08		0.01		0.21	0.70		0.01	0.50	
Clearance Time (s)		4.2	4.2		4.0		3.5	6.4		3.7	6.4	
Vehicle Extension (s)		2.5	2.5		3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		126	113		9		371	2465		20	1669	
v/s Ratio Prot		c0.02			c0.00		c0.13	c0.44		0.00	0.19	
v/s Ratio Perm			0.01									
v/c Ratio		0.23	0.08		0.00		0.63	0.63		0.10	0.38	
Uniform Delay, d1		39.0	38.5		44.0		32.4	7.4		44.1	13.9	
Progression Factor		1.00	1.00		1.00		0.96	0.47		0.97	0.94	
Incremental Delay, d2		0.7	0.2		0.1		2.2	1.0		0.8	0.7	
Delay (s)		39.7	38.8		44.1		33.2	4.5		43.4	13.7	
Level of Service		D	D		D		C	A		D	B	
Approach Delay (s)		38.9			44.1			8.3			13.8	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.3
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	0	27	1	0	2	16	1567	2	0	624	26
Future Volume (vph)	68	0	27	1	0	2	16	1567	2	0	624	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95			0.95	
Frpb, ped/bikes		1.00			1.00		1.00	1.00			1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00			1.00	
Frt		0.96			0.91		1.00	1.00			0.99	
Flt Protected		0.97			0.98		0.95	1.00			1.00	
Satd. Flow (prot)		1697			1701		1805	3537			3287	
Flt Permitted		0.97			0.98		0.95	1.00			1.00	
Satd. Flow (perm)		1697			1701		1805	3537			3287	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	0	29	1	0	2	17	1703	2	0	678	28
RTOR Reduction (vph)	0	97	0	0	3	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	6	0	0	0	0	17	1705	0	0	704	0
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)									2			13
Heavy Vehicles (%)	4%	0%	4%	0%	0%	0%	0%	2%	50%	0%	8%	35%
Turn Type	Split	NA		Split	NA		Prot	NA		Perm	NA	
Protected Phases	4	4		8	8		5	2			6	
Permitted Phases										6		
Actuated Green, G (s)		5.5			1.1		2.2	71.4			65.2	
Effective Green, g (s)		5.5			1.1		2.2	71.4			65.2	
Actuated g/C Ratio		0.06			0.01		0.02	0.79			0.72	
Clearance Time (s)		4.0			4.0		4.0	4.0			4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		103			20		44	2806			2381	
v/s Ratio Prot		c0.00			c0.00		0.01	c0.48			0.21	
v/s Ratio Perm												
v/c Ratio		0.06			0.00		0.39	0.61			0.30	
Uniform Delay, d1		39.8			43.9		43.2	3.7			4.3	
Progression Factor		1.00			1.00		1.25	0.35			0.63	
Incremental Delay, d2		0.3			0.0		4.2	0.7			0.3	
Delay (s)		40.1			43.9		58.0	2.0			3.0	
Level of Service		D			D		E	A			A	
Approach Delay (s)		40.1			43.9			2.6			3.0	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	350	1	52	2	1	10	61	1211	5	5	352	302
Future Volume (vph)	350	1	52	2	1	10	61	1211	5	5	352	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.0		3.5	6.4		3.5	6.4	4.2
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frt		1.00	0.85		0.89		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1787	1583		1466		1671	3503		1805	3195	1580
Flt Permitted		0.95	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1787	1583		1477		1671	3503		1805	3195	1580
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	380	1	57	2	1	11	66	1316	5	5	383	328
RTOR Reduction (vph)	0	0	42	0	11	0	0	0	0	0	0	123
Lane Group Flow (vph)	0	381	15	0	3	0	66	1321	0	5	383	205
Confl. Bikes (#/hr)									2			1
Heavy Vehicles (%)	1%	100%	2%	50%	0%	10%	8%	3%	0%	0%	13%	1%
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	8	8			7		1	6		5	2	8
Permitted Phases			8	7								2
Actuated Green, G (s)		23.7	23.7		0.8		14.9	46.4		1.0	32.5	56.2
Effective Green, g (s)		23.7	23.7		0.8		14.9	46.4		1.0	32.5	56.2
Actuated g/C Ratio		0.26	0.26		0.01		0.17	0.52		0.01	0.36	0.62
Clearance Time (s)		4.2	4.2		4.0		3.5	6.4		3.5	6.4	4.2
Vehicle Extension (s)		2.5	2.5		3.0		2.0	1.0		2.0	1.0	2.5
Lane Grp Cap (vph)		470	416		13		276	1805		20	1153	986
v/s Ratio Prot		c0.21					0.04	c0.38		0.00	c0.12	0.05
v/s Ratio Perm			0.01		c0.00							0.07
v/c Ratio		0.81	0.04		0.24		0.24	0.73		0.25	0.33	0.21
Uniform Delay, d1		31.0	24.7		44.3		32.6	17.0		44.1	20.9	7.3
Progression Factor		1.00	1.00		1.00		1.00	1.00		0.84	0.75	2.14
Incremental Delay, d2		10.0	0.0		9.3		0.2	2.7		2.3	0.8	0.1
Delay (s)		41.0	24.7		53.6		32.8	19.6		39.4	16.5	15.7
Level of Service		D	C		D		C	B		D	B	B
Approach Delay (s)		38.9			53.6			20.2			16.3	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.1
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	23	113	0	155	2	737	0	147	1211	7
Future Volume (vph)	1	0	23	113	0	155	2	737	0	147	1211	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.85		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583		1805	1538		1770	3505		1656	3536	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1583		1805	1538		1770	3505		1656	3536	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	0	25	123	0	168	2	801	0	160	1316	8
RTOR Reduction (vph)	0	24	0	0	147	0	0	0	0	0	0	0
Lane Group Flow (vph)	1	1	0	123	21	0	2	801	0	160	1324	0
Confl. Bikes (#/hr)									5			
Heavy Vehicles (%)	2%	2%	2%	0%	2%	5%	2%	3%	0%	9%	2%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.2	3.0		10.4	11.2		0.8	43.9		16.7	59.8	
Effective Green, g (s)	2.2	3.0		10.4	11.2		0.8	43.9		16.7	59.8	
Actuated g/C Ratio	0.02	0.03		0.12	0.12		0.01	0.49		0.19	0.66	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	43	52		208	191		15	1709		307	2349	
v/s Ratio Prot	c0.00	0.00		c0.07	0.01		0.00	0.23		c0.10	c0.37	
v/s Ratio Perm												
v/c Ratio	0.02	0.02		0.59	0.11		0.13	0.47		0.52	0.56	
Uniform Delay, d1	42.9	42.1		37.8	35.0		44.3	15.3		33.0	8.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	0.52		1.00	1.00	
Incremental Delay, d2	0.2	0.1		4.5	0.3		3.9	0.9		1.6	1.0	
Delay (s)	43.1	42.2		42.2	35.2		48.2	8.9		34.6	9.1	
Level of Service	D	D		D	D		D	A		C	A	
Approach Delay (s)		42.2			38.2			9.0			11.8	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	0	86	653	13	19	1307
Future Vol, veh/h	0	86	653	13	19	1307
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	7	2	23	5	2
Mvmt Flow	0	93	710	14	21	1421

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1469	362	0	0	724	0
Stage 1	717	-	-	-	-	-
Stage 2	752	-	-	-	-	-
Critical Hdwy	6.88	7.04	-	-	4.2	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.54	3.37	-	-	2.25	-
Pot Cap-1 Maneuver	116	620	-	-	855	-
Stage 1	439	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	113	620	-	-	855	-
Mov Cap-2 Maneuver	245	-	-	-	-	-
Stage 1	439	-	-	-	-	-
Stage 2	411	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	620	855	-
HCM Lane V/C Ratio	-	-	0.151	0.024	-
HCM Control Delay (s)	-	-	11.8	9.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	1	343	5	0	2	72	650	4	2	1350	29
Future Volume (vph)	55	1	343	5	0	2	72	650	4	2	1350	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.0		3.5	6.4		3.7	6.4	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.96		1.00	1.00		1.00	1.00	
Flt Protected		0.95	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1710	1568		1764		1719	3536		1805	3522	
Flt Permitted		0.95	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1710	1568		1764		1719	3536		1805	3522	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	1	373	5	0	2	78	707	4	2	1467	32
RTOR Reduction (vph)	0	0	178	0	7	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	61	195	0	0	0	78	711	0	2	1498	0
Confl. Bikes (#/hr)									4			7
Heavy Vehicles (%)	6%	0%	3%	0%	0%	0%	5%	2%	0%	0%	2%	8%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		3	3		1	6		5	2	
Permitted Phases			4									
Actuated Green, G (s)		14.6	14.6		1.0		7.5	55.1		1.0	48.8	
Effective Green, g (s)		14.6	14.6		1.0		7.5	55.1		1.0	48.8	
Actuated g/C Ratio		0.16	0.16		0.01		0.08	0.61		0.01	0.54	
Clearance Time (s)		4.2	4.2		4.0		3.5	6.4		3.7	6.4	
Vehicle Extension (s)		2.5	2.5		3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		277	254		19		143	2164		20	1909	
v/s Ratio Prot		0.04			c0.00		c0.05	0.20		0.00	c0.43	
v/s Ratio Perm			c0.12									
v/c Ratio		0.22	0.77		0.00		0.55	0.33		0.10	0.78	
Uniform Delay, d1		32.8	36.1		44.0		39.6	8.5		44.1	16.4	
Progression Factor		1.00	1.00		1.00		0.95	0.69		1.18	0.78	
Incremental Delay, d2		0.3	12.6		0.1		2.2	0.4		0.7	3.0	
Delay (s)		33.0	48.6		44.1		39.8	6.3		52.9	15.8	
Level of Service		C	D		D		D	A		D	B	
Approach Delay (s)		46.5			44.1			9.6			15.9	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.3
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	0	12	1	0	1	18	679	1	0	1626	72
Future Volume (vph)	46	0	12	1	0	1	18	679	1	0	1626	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95			0.95	
Frpb, ped/bikes		1.00			1.00		1.00	1.00			1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00			1.00	
Frt		0.97			0.93		1.00	1.00			0.99	
Flt Protected		0.96			0.98		0.95	1.00			1.00	
Satd. Flow (prot)		1722			1729		1703	3538			3515	
Flt Permitted		0.96			0.98		0.95	1.00			1.00	
Satd. Flow (perm)		1722			1729		1703	3538			3515	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	47	0	12	1	0	1	19	700	1	0	1676	74
RTOR Reduction (vph)	0	56	0	0	2	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	3	0	0	0	0	19	701	0	0	1747	0
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	4%	0%	0%	0%	0%	0%	6%	2%	0%	0%	2%	3%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		4.4			0.9		2.2	72.7			66.5	
Effective Green, g (s)		4.4			0.9		2.2	72.7			66.5	
Actuated g/C Ratio		0.05			0.01		0.02	0.81			0.74	
Clearance Time (s)		4.0			4.0		4.0	4.0			4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		84			17		41	2857			2597	
v/s Ratio Prot		c0.00			c0.00		c0.01	0.20			c0.50	
v/s Ratio Perm												
v/c Ratio		0.03			0.00		0.46	0.25			0.67	
Uniform Delay, d1		40.8			44.1		43.3	2.1			6.1	
Progression Factor		1.00			1.00		0.82	2.19			0.32	
Incremental Delay, d2		0.2			0.0		7.9	0.2			1.0	
Delay (s)		40.9			44.1		43.6	4.7			3.0	
Level of Service		D			D		D	A			A	
Approach Delay (s)		40.9			44.1			5.8			3.0	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	168	1	57	2	1	15	38	507	1	0	1398	228
Future Volume (vph)	168	1	57	2	1	15	38	507	1	0	1398	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2		4.0		3.5	6.4			6.4	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95			0.95	
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	
Frt		1.00	0.85		0.89		1.00	1.00			0.98	
Flt Protected		0.95	1.00		0.99		0.95	1.00			1.00	
Satd. Flow (prot)		1775	1583		1510		1805	3464			3487	
Flt Permitted		0.95	1.00		0.99		0.95	1.00			1.00	
Satd. Flow (perm)		1775	1583		1510		1805	3464			3487	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	179	1	61	2	1	16	40	539	1	0	1487	243
RTOR Reduction (vph)	0	0	52	0	16	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	180	9	0	3	0	40	540	0	0	1719	0
Confl. Peds. (#/hr)							1					1
Confl. Bikes (#/hr)									3			2
Heavy Vehicles (%)	2%	0%	2%	0%	0%	13%	0%	4%	100%	0%	1%	1%
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	
Protected Phases	8	8		7	7		1	6		5	2	
Permitted Phases			8									
Actuated Green, G (s)		13.9	13.9		1.6		3.1	59.9			53.3	
Effective Green, g (s)		13.9	13.9		1.6		3.1	59.9			53.3	
Actuated g/C Ratio		0.15	0.15		0.02		0.03	0.67			0.59	
Clearance Time (s)		4.2	4.2		4.0		3.5	6.4			6.4	
Vehicle Extension (s)		2.5	2.5		3.0		2.0	1.0			1.0	
Lane Grp Cap (vph)		274	244		26		62	2305			2065	
v/s Ratio Prot		c0.10			c0.00		c0.02	0.16			c0.49	
v/s Ratio Perm			0.01									
v/c Ratio		0.66	0.04		0.13		0.65	0.23			0.83	
Uniform Delay, d1		35.8	32.4		43.5		42.9	6.0			14.8	
Progression Factor		1.00	1.00		1.00		1.00	1.00			0.47	
Incremental Delay, d2		5.0	0.0		2.2		15.9	0.2			3.4	
Delay (s)		40.8	32.4		45.7		58.8	6.2			10.2	
Level of Service		D	C		D		E	A			B	
Approach Delay (s)		38.7			45.7			9.8			10.2	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.1
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	50		0	75		325	190		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		292			310			1092			296	
Travel Time (s)		6.6			7.0			16.5			4.5	
Lane Group Flow (vph)	1	0	0	3	88	0	4	1479	0	116	705	0
v/c Ratio	0.01			0.02	0.26		0.04	0.61		0.57	0.25	
Control Delay	41.0			36.0	1.9		55.0	3.2		50.3	3.0	
Queue Delay	0.0			0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	41.0			36.0	1.9		55.0	3.2		50.3	3.0	
Queue Length 50th (ft)	1			2	0		2	142		62	24	
Queue Length 95th (ft)	6			9	0		m4	24		#149	113	
Internal Link Dist (ft)		212			230			1012			216	
Turn Bay Length (ft)	50			50			75			190		
Base Capacity (vph)	103			144	483		114	2427		206	2828	
Starvation Cap Reductn	0			0	0		0	0		0	0	
Spillback Cap Reductn	0			0	0		0	0		0	0	
Storage Cap Reductn	0			0	0		0	0		0	0	
Reduced v/c Ratio	0.01			0.02	0.18		0.04	0.61		0.56	0.25	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	22	1386	59	112	554
Future Volume (Veh/h)	0	22	1386	59	112	554
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	23	1459	62	118	583
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)						1092
pX, platoon unblocked	1.00					
vC, conflicting volume	2018	760			1521	
vC1, stage 1 conf vol	1490					
vC2, stage 2 conf vol	528					
vCu, unblocked vol	2016	760			1521	
tC, single (s)	6.8	7.1			4.2	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.4			2.2	
p0 queue free %	100	93			73	
cM capacity (veh/h)	160	333			430	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	23	973	548	118	292	292
Volume Left	0	0	0	118	0	0
Volume Right	23	0	62	0	0	0
cSH	333	1700	1700	430	1700	1700
Volume to Capacity	0.07	0.57	0.32	0.27	0.17	0.17
Queue Length 95th (ft)	6	0	0	28	0	0
Control Delay (s)	16.6	0.0	0.0	16.5	0.0	0.0
Lane LOS	C			C		
Approach Delay (s)	16.6	0.0		2.8		
Approach LOS	C					

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		135	0		0	346		0	466		466
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			30			45			45	
Link Distance (ft)		635			340			1376			2451	
Travel Time (s)		7.9			7.7			20.8			37.1	
Lane Group Flow (vph)	0	29	122	0	1	0	234	1546	0	2	644	0
v/c Ratio		0.23	0.40		0.00		0.75	0.57		0.02	0.34	
Control Delay		43.0	3.8		0.0		45.8	3.6		39.5	11.9	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		43.0	3.8		0.0		45.8	3.6		39.5	11.9	
Queue Length 50th (ft)		16	0		0		140	79		1	86	
Queue Length 95th (ft)		42	1		0		192	123		m5	138	
Internal Link Dist (ft)		555			260			1296			2371	
Turn Bay Length (ft)			135				346			466		
Base Capacity (vph)		361	488		377		416	2707		102	1904	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.08	0.25		0.00		0.56	0.57		0.02	0.34	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	124		100	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		620			542			1458			1376	
Travel Time (s)		14.1			12.3			22.1			20.8	
Lane Group Flow (vph)	0	103	0	0	3	0	17	1705	0	0	706	0
v/c Ratio		0.46			0.01		0.15	0.57			0.27	
Control Delay		14.3			0.0		52.7	1.8			2.8	
Queue Delay		0.0			0.0		0.0	0.0			0.0	
Total Delay		14.3			0.0		52.7	1.8			2.8	
Queue Length 50th (ft)		0			0		9	16			24	
Queue Length 95th (ft)		43			0		m16	75			41	
Internal Link Dist (ft)		540			462			1378			1296	
Turn Bay Length (ft)							124					
Base Capacity (vph)		269			206		114	3010			2660	
Starvation Cap Reductn		0			0		0	0			0	
Spillback Cap Reductn		0			0		0	0			0	
Storage Cap Reductn		0			0		0	0			0	
Reduced v/c Ratio		0.38			0.01		0.15	0.57			0.27	

Intersection Summary	
Area Type:	Other
m	Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		330	0		0	225		0	110		250
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			45			45	
Link Distance (ft)		642			240			1603			1458	
Travel Time (s)		10.9			5.5			24.3			22.1	
Lane Group Flow (vph)	0	381	57	0	14	0	66	1321	0	5	383	328
v/c Ratio		0.81	0.10		0.15		0.23	0.65		0.05	0.28	0.27
Control Delay		45.5	0.3		28.3		30.0	16.7		35.0	17.3	2.4
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		45.5	0.3		28.3		30.0	16.7		35.0	17.3	2.4
Queue Length 50th (ft)		198	0		2		31	232		2	74	0
Queue Length 95th (ft)		#343	0		21		61	#460		m9	119	98
Internal Link Dist (ft)		562			160			1523			1378	
Turn Bay Length (ft)			330				225			110		250
Base Capacity (vph)		507	599		91		319	2038		100	1584	1240
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.75	0.10		0.15		0.21	0.65		0.05	0.24	0.26

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	50		0	75		325	190		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		186			310			1092			296	
Travel Time (s)		4.2			7.0			16.5			4.5	
Lane Group Flow (vph)	1	25	0	123	168	0	2	801	0	160	1324	0
v/c Ratio	0.01	0.10		0.59	0.31		0.02	0.41		0.65	0.51	
Control Delay	37.0	0.8		49.4	1.5		41.0	7.6		47.7	7.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	37.0	0.8		49.4	1.5		41.0	7.6		47.7	7.4	
Queue Length 50th (ft)	1	0		67	0		1	70		86	103	
Queue Length 95th (ft)	5	0		123	0		m6	68		145	302	
Internal Link Dist (ft)		106			230			1012			216	
Turn Bay Length (ft)	50			50			75			190		
Base Capacity (vph)	130	412		230	690		103	1958		299	2600	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.06		0.53	0.24		0.02	0.41		0.54	0.51	

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		330	0		0	225		0	110		250
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			45			45	
Link Distance (ft)		642			240			1603			1458	
Travel Time (s)		10.9			5.5			24.3			22.1	
Lane Group Flow (vph)	0	180	61	0	19	0	40	540	0	0	1487	243
v/c Ratio		0.53	0.15		0.16		0.26	0.26			0.79	0.26
Control Delay		33.1	0.8		25.3		40.9	7.4			18.8	2.7
Queue Delay		0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay		33.1	0.8		25.3		40.9	7.4			18.8	2.7
Queue Length 50th (ft)		62	0		1		15	39			236	0
Queue Length 95th (ft)		153	0		24		54	102			477	37
Internal Link Dist (ft)		562			160			1523			1378	
Turn Bay Length (ft)			330				225					250
Base Capacity (vph)		600	623		116		154	2586			2524	1174
Starvation Cap Reductn		0	0		0		0	0			0	0
Spillback Cap Reductn		0	0		0		0	0			0	0
Storage Cap Reductn		0	0		0		0	0			0	0
Reduced v/c Ratio		0.30	0.10		0.16		0.26	0.21			0.59	0.21

Intersection Summary

Area Type: Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		135	0		0	346		0	466		466
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		55			30			45			45	
Link Distance (ft)		635			340			509			2451	
Travel Time (s)		7.9			7.7			7.7			37.1	
Lane Group Flow (vph)	0	61	373	0	7	0	78	711	0	2	1499	0
v/c Ratio		0.22	0.86		0.02		0.63	0.30		0.02	0.70	
Control Delay		32.1	35.1		0.2		62.6	5.8		48.0	14.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		32.1	35.1		0.2		62.6	5.8		48.0	14.1	
Queue Length 50th (ft)		30	89		0		45	57		1	313	
Queue Length 95th (ft)		61	#189		0		#113	136		m2	#558	
Internal Link Dist (ft)		555			260			429			2371	
Turn Bay Length (ft)			135				346			466		
Base Capacity (vph)		383	516		304		124	2405		102	2150	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.16	0.72		0.02		0.63	0.30		0.02	0.70	

Intersection Summary	
Area Type:	Other
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
m	Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	124		100	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		620			542			1458			869	
Travel Time (s)		14.1			12.3			22.1			13.2	
Lane Group Flow (vph)	0	59	0	0	2	0	19	701	0	0	1750	0
v/c Ratio		0.23			0.01		0.18	0.23			0.61	
Control Delay		2.2			0.0		36.9	3.9			2.4	
Queue Delay		0.0			0.0		0.0	0.0			0.0	
Total Delay		2.2			0.0		36.9	3.9			2.4	
Queue Length 50th (ft)		0			0		8	10			70	
Queue Length 95th (ft)		0			0		m32	113			35	
Internal Link Dist (ft)		540			462			1378			789	
Turn Bay Length (ft)							124					
Base Capacity (vph)		262			250		108	3047			2881	
Starvation Cap Reductn		0			0		0	0			0	
Spillback Cap Reductn		0			0		0	0			0	
Storage Cap Reductn		0			0		0	0			0	
Reduced v/c Ratio		0.23			0.01		0.18	0.23			0.61	

Intersection Summary	
Area Type:	Other
m Volume for 95th percentile queue is metered by upstream signal.	

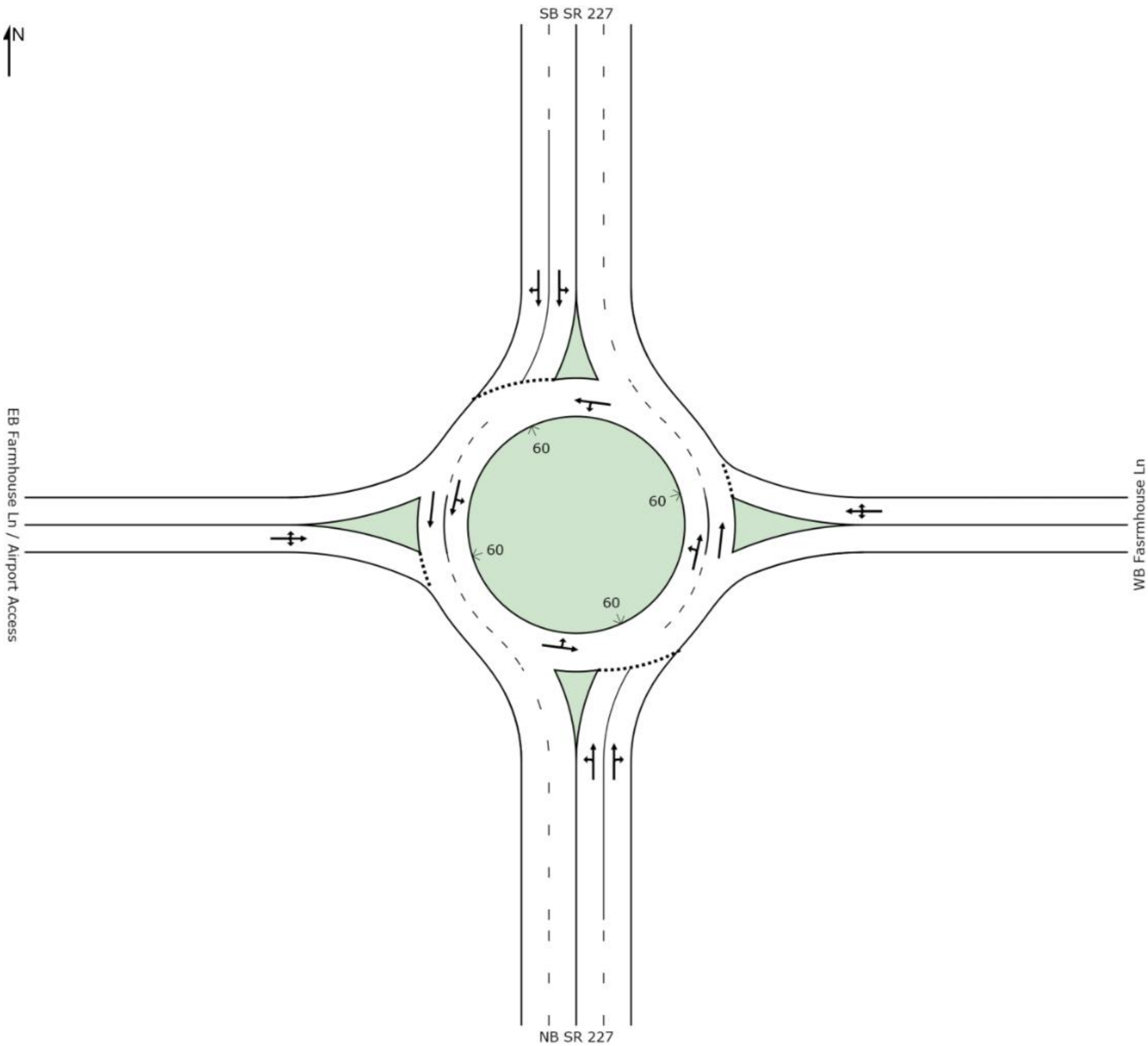
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		330	0		0	225		0	110		250
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			30			45			45	
Link Distance (ft)		642			240			1603			1458	
Travel Time (s)		10.9			5.5			24.3			22.1	
Lane Group Flow (vph)	0	180	61	0	19	0	40	540	0	0	1487	243
v/c Ratio		0.53	0.15		0.16		0.26	0.26			0.79	0.26
Control Delay		33.1	0.8		25.3		40.9	7.4			18.8	2.7
Queue Delay		0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay		33.1	0.8		25.3		40.9	7.4			18.8	2.7
Queue Length 50th (ft)		62	0		1		15	39			236	0
Queue Length 95th (ft)		153	0		24		54	102			477	37
Internal Link Dist (ft)		562			160			1523			1378	
Turn Bay Length (ft)			330				225					250
Base Capacity (vph)		600	623		116		154	2586			2524	1174
Starvation Cap Reductn		0	0		0		0	0			0	0
Spillback Cap Reductn		0	0		0		0	0			0	0
Storage Cap Reductn		0	0		0		0	0			0	0
Reduced v/c Ratio		0.30	0.10		0.16		0.26	0.21			0.59	0.21

Intersection Summary	
Area Type:	Other

SITE LAYOUT

Site: Int02: 227-Farmhouse_2035 AM_01

Roundabout



SIDRA INTERSECTION 6

LANE SUMMARY

Site: Int02: 227-Farmhouse_Exist AM_01

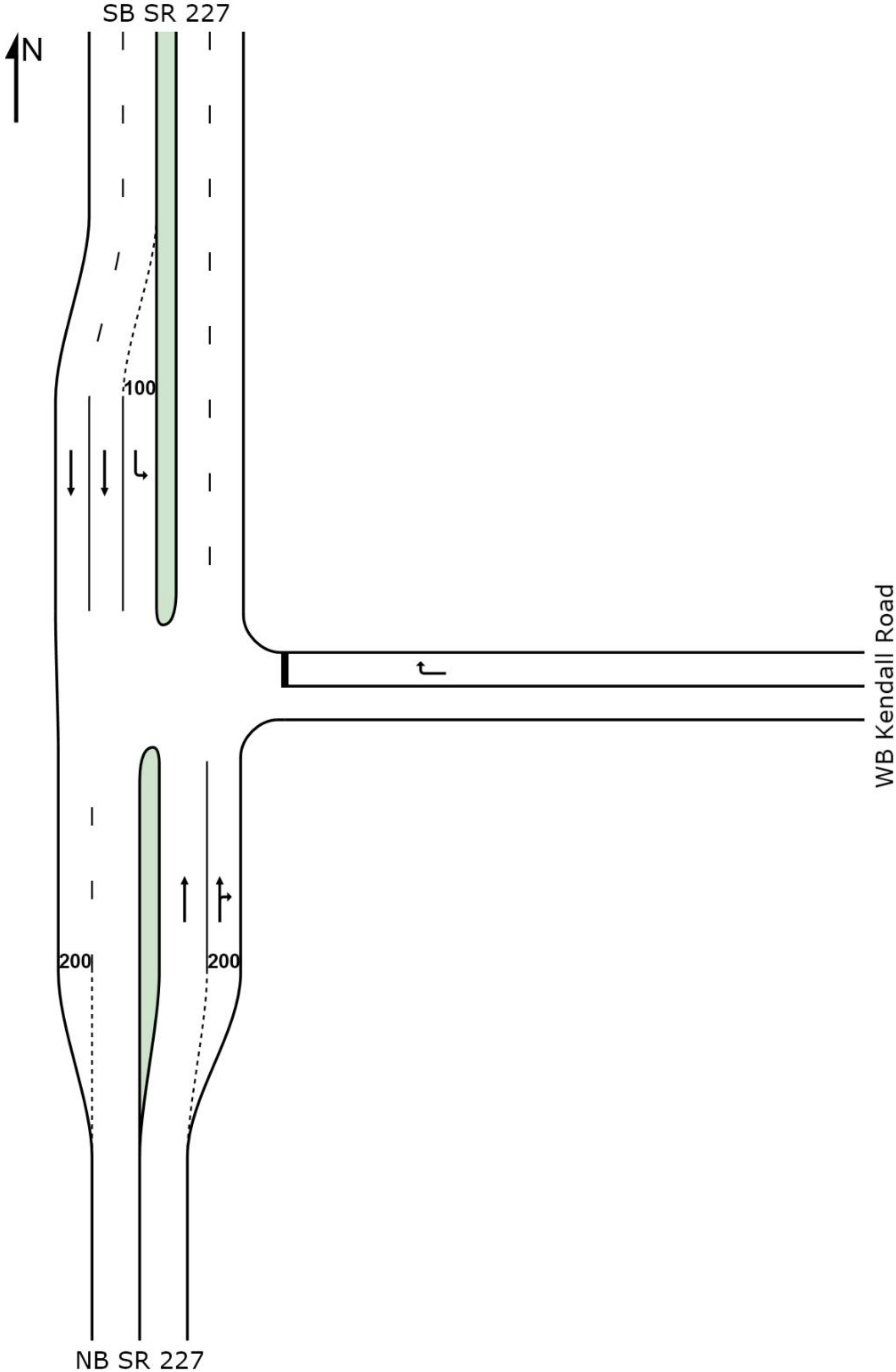
Roundabout

Lane Use and Performance													
	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist ft		ft	%	%
South: NB SR 227													
Lane 1	679	3.0	1350	0.503	100	7.9	LOS A	3.4	87.7	Full	960	0.0	0.0
Lane 2[d]	680	3.0	1350	0.503	100	7.9	LOS A	3.4	87.7	Full	960	0.0	0.0
Approach	1359	3.0		0.503		7.9	LOS A	3.4	87.7				
East: WB Fasrmhouse Ln													
Lane 1[d]	21	5.4	444	0.047	100	8.7	LOS A	0.2	4.2	Full	750	0.0	0.0
Approach	21	5.4		0.047		8.7	LOS A	0.2	4.2				
North: SB SR 227													
Lane 1[d]	330	6.2	1348	0.245	100	4.8	LOS A	1.3	33.6	Full	790	0.0	0.0
Lane 2	327	6.9	1338	0.245	100	4.8	LOS A	1.3	33.5	Full	790	0.0	0.0
Approach	657	6.5		0.245		4.8	LOS A	1.3	33.6				
West: EB Farmhouse Ln / Airport Access													
Lane 1[d]	3	0.0	962	0.003	100	3.8	LOS A	0.0	0.3	Full	50	0.0	0.0
Approach	3	0.0		0.003		3.8	LOS A	0.0	0.3				
Intersection	2040	4.1		0.503		6.9	LOS A	3.4	87.7				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

SIDRA INTERSECTION 6



SB SR 227
N
100
WB Kendall Road
200
200
NB SR 227

LANE SUMMARY

Site: Int03: 227-Kendall_2035 AM - Stop Alt

Stop (Two-Way)

Lane Use and Performance

	Demand Flows Total veh/h	Demand Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	95% Back of Queue Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: NB SR 227													
Lane 1	782	2.0	1937	0.403	100	0.1	LOS A	0.0	0.0	Full	2290	0.0	0.0
Lane 2	740	2.1	1833	0.403	100	0.1	LOS A	0.0	0.0	Short	200	0.0	0.0
Approach	1521	2.0		0.403		0.1	NA	0.0	0.0				
East: WB Kendall Road													
Lane 1	23	9.0	300	0.077	100	11.2	LOS B	0.3	7.6	Full	240	0.0	0.0
Approach	23	9.0		0.077		11.2	LOS B	0.3	7.6				
North: SB SR 227													
Lane 1	118	3.0	391	0.301	100	12.9	LOS B	1.2	30.3	Short	100	0.0	0.0
Lane 2	433	5.0	1810	0.239	100	0.0	LOS A	0.0	0.0	Full	960	0.0	0.0
Lane 3	150	5.0	1810	0.083	35[6]	0.0	LOS A	0.0	0.0	Full	960	0.0	0.0
Approach	701	4.7		0.301		2.2	NA	1.2	30.3				
Intersection	2245	2.9		0.403		0.9	NA	1.2	30.3				

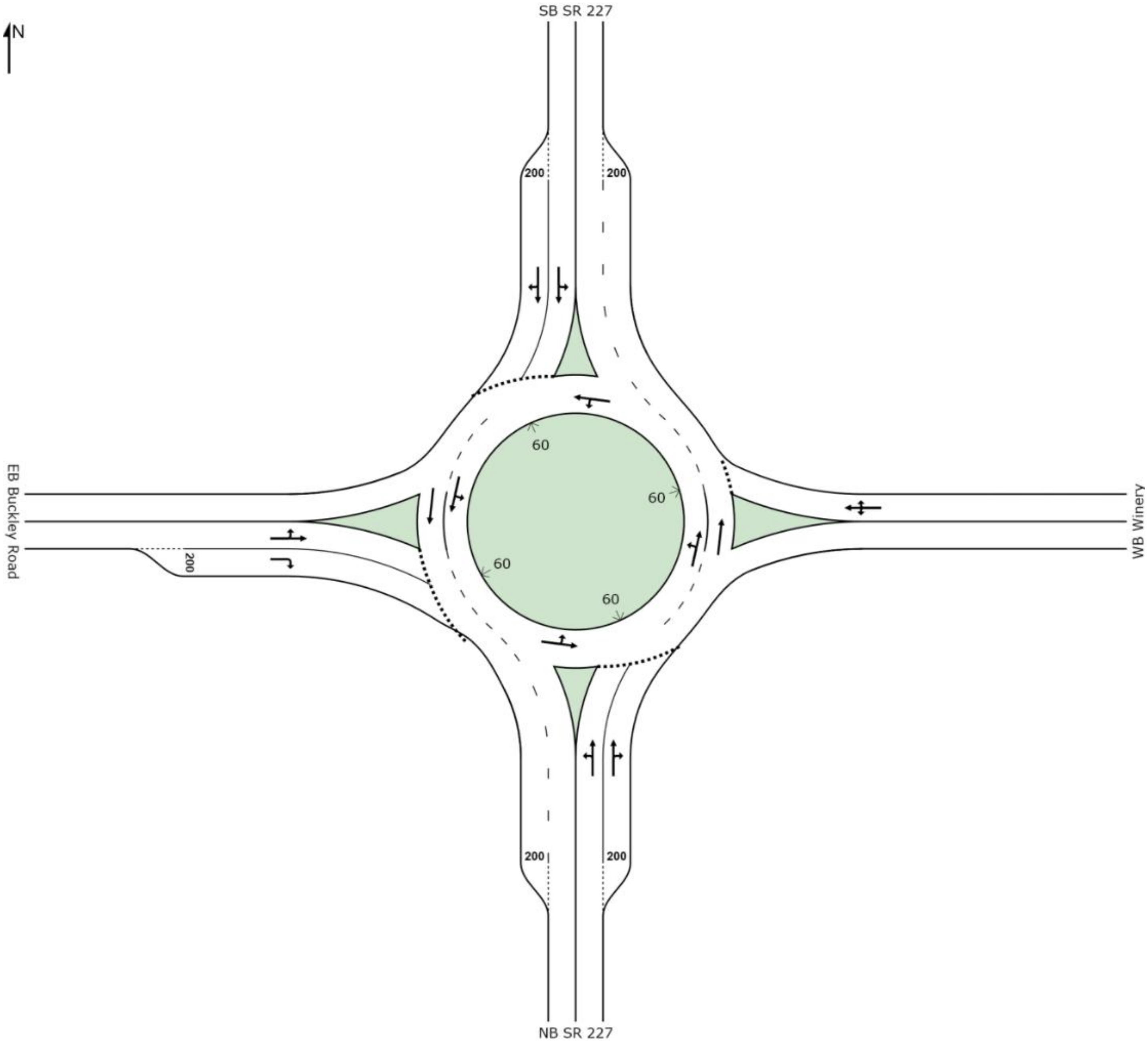
Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Minor Road Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

6 Lane underutilisation due to downstream effects

SITE LAYOUT

Site: Int04: 227-Buckley_2035 AM_01a

Roundabout



LANE SUMMARY

Site: Int04: 227-Buckley_2035 AM_01a

Roundabout

Lane Use and Performance													
	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: NB SR 227													
Lane 1	890	2.0	1362	0.653	100	10.7	LOS B	7.2	181.8	Full	1220	0.0	0.0
Lane 2[d]	890	2.0	1362	0.653	100	10.7	LOS B	7.2	181.8	Short	200	0.0	2.2
Approach	1779	2.0		0.653		10.7	LOS B	7.2	181.8				
East: WB Winery													
Lane 1[d]	3	33.3	233	0.014	100	15.7	LOS C	0.0	1.1	Full	1000	0.0	0.0
Approach	3	33.3		0.014		15.7	LOS C	0.0	1.1				
North: SB SR 227													
Lane 1[d]	324	6.0	1068	0.303	100	6.3	LOS A	1.5	40.0	Full	2290	0.0	0.0
Lane 2	321	6.9	1059	0.303	100	6.4	LOS A	1.5	39.9	Short	200	0.0	0.0
Approach	646	6.4		0.303		6.4	LOS A	1.5	40.0				
West: EB Buckley Road													
Lane 1	30	10.6	640	0.048	100	6.1	LOS A	0.1	3.1	Full	560	0.0	0.0
Lane 2[d]	122	11.0	658	0.185	100	7.6	LOS A	0.5	12.4	Short	200	0.0	0.0
Approach	152	10.9		0.185		7.3	LOS A	0.5	12.4				
Intersection	2580	3.7		0.653		9.4	LOS A	7.2	181.8				

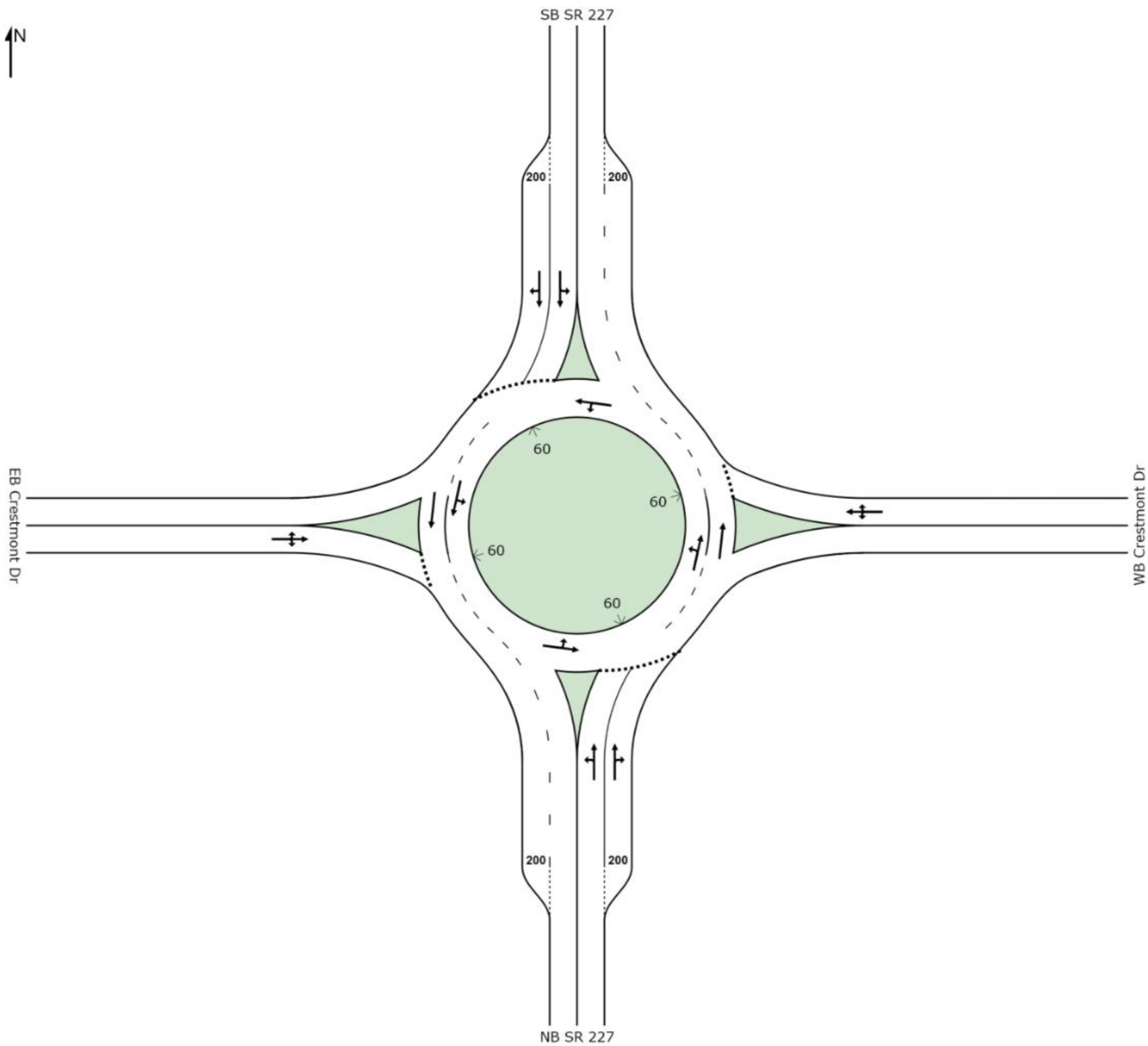
Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

SITE LAYOUT

Site: Int05: 227-Crestmont_2035 AM_01

Roundabout



LANE SUMMARY

Site: Int05: 227-Crestmont_2035 AM_01

Roundabout

Lane Use and Performance	Demand Flows Total veh/h	Demand Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	95% Back of Queue Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: NB SR 227													
Lane 1[d]	862	2.0	1305	0.661	100	11.3	LOS B	6.8	173.9	Full	1300	0.0	0.0
Lane 2	861	2.1	1303	0.661	100	11.3	LOS B	6.8	173.5	Short	200	0.0	0.9
Approach	1723	2.0		0.661		11.3	LOS B	6.8	173.9				
East: WB Crestmont Dr													
Lane 1[d]	4	0.0	315	0.014	100	11.6	LOS B	0.0	1.2	Full	1000	0.0	0.0
Approach	4	0.0		0.014		11.6	LOS B	0.0	1.2				
North: SB SR 227													
Lane 1[d]	357	8.0	1308	0.273	100	5.2	LOS A	1.4	38.3	Full	1220	0.0	0.0
Lane 2	350	10.2	1282	0.273	100	5.2	LOS A	1.4	37.9	Short	200	0.0	0.0
Approach	708	9.1		0.273		5.2	LOS A	1.4	38.3				
West: EB Crestmont Dr													
Lane 1[d]	104	4.0	650	0.161	100	7.4	LOS A	0.4	10.7	Full	510	0.0	0.0
Approach	104	4.0		0.161		7.4	LOS A	0.4	10.7				
Intersection	2539	4.1		0.661		9.4	LOS A	6.8	173.9				

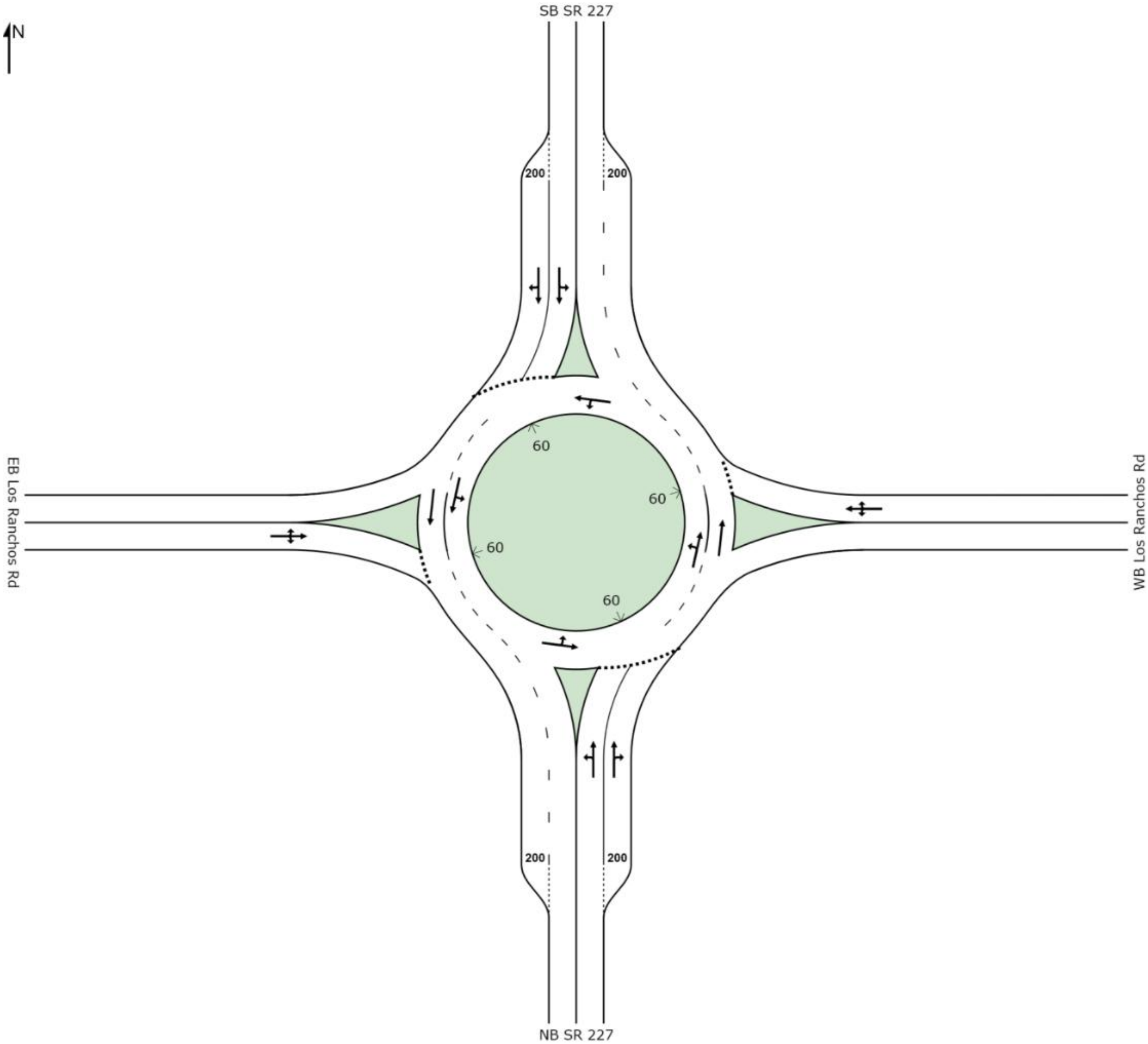
Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

SITE LAYOUT

Site: Int06: 227-Los Ranchos_2035 AM_01

Roundabout



LANE SUMMARY

Site: Int06: 227-Los Ranchos_2035 AM_01

Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	Demand Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	95% Back of Queue Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: NB SR 227													
Lane 1	692	3.5	940	0.736	100	17.4	LOS C	7.8	201.6	Full	2000	0.0	0.0
Lane 2[d]	696	3.0	945	0.736	100	17.3	LOS C	7.9	202.5	Short	200	0.0	5.4
Approach	1388	3.2		0.736		17.3	LOS C	7.9	202.5				
East: WB Los Ranchos Rd													
Lane 1[d]	14	15.4	278	0.051	100	13.9	LOS B	0.1	4.2	Full	900	0.0	0.0
Approach	14	15.4		0.051		13.9	LOS B	0.1	4.2				
North: SB SR 227													
Lane 1	341	12.8	1183	0.288	100	5.7	LOS A	1.4	39.2	Full	1300	0.0	0.0
Lane 2[d]	375	2.5	1302	0.288	100	5.3	LOS A	1.6	41.2	Short	200	0.0	0.0
Approach	716	7.4		0.288		5.5	LOS A	1.6	41.2				
West: EB Los Ranchos Rd													
Lane 1[d]	438	1.4	819	0.535	100	12.0	LOS B	2.4	60.3	Full	320	0.0	0.0
Approach	438	1.4		0.535		12.0	LOS B	2.4	60.3				
Intersection	2557	4.1		0.736		13.1	LOS B	7.9	202.5				

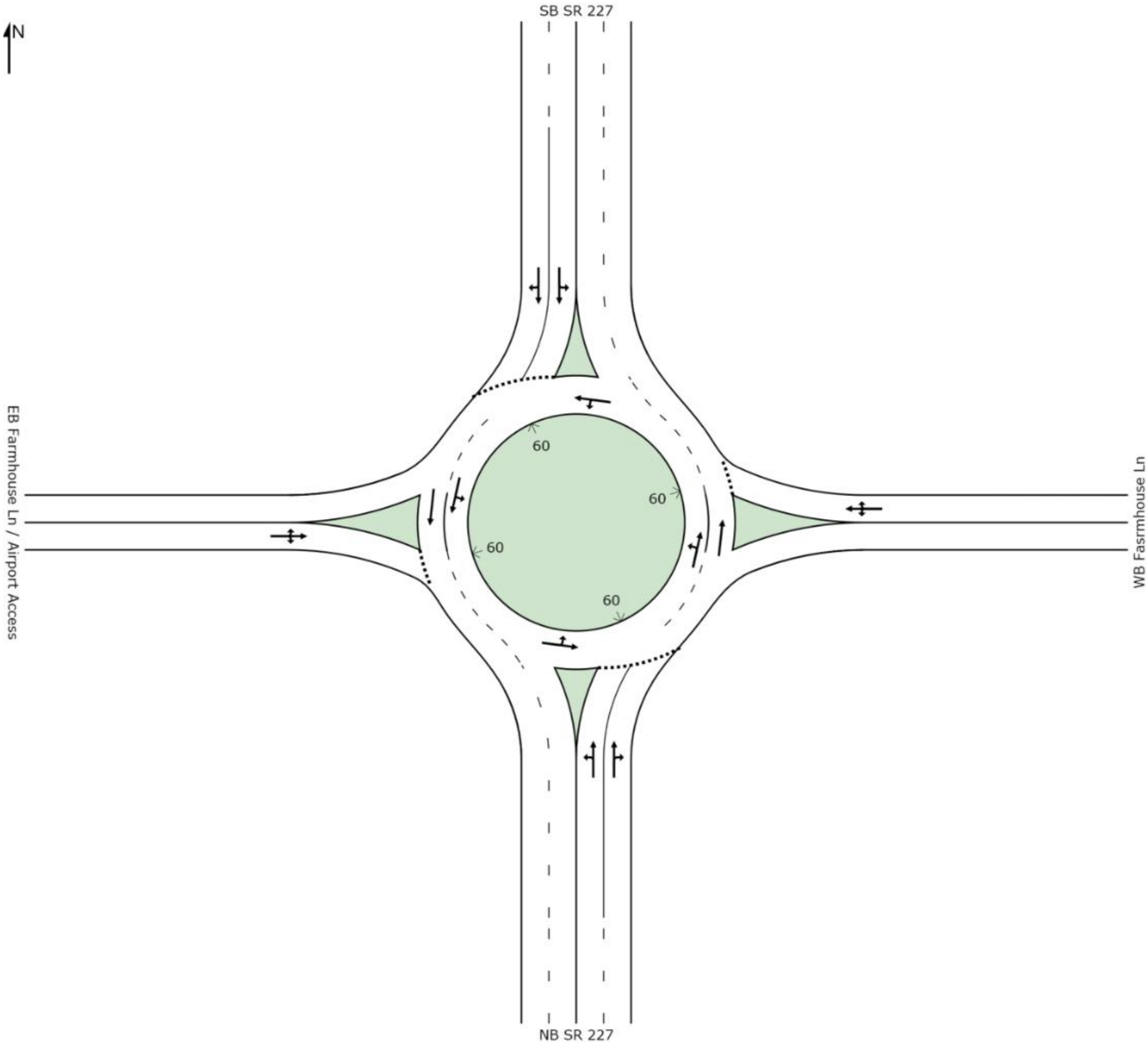
Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

SITE LAYOUT

Site: Int02: 227-Farmhouse_Exist PM_01

Roundabout



LANE SUMMARY

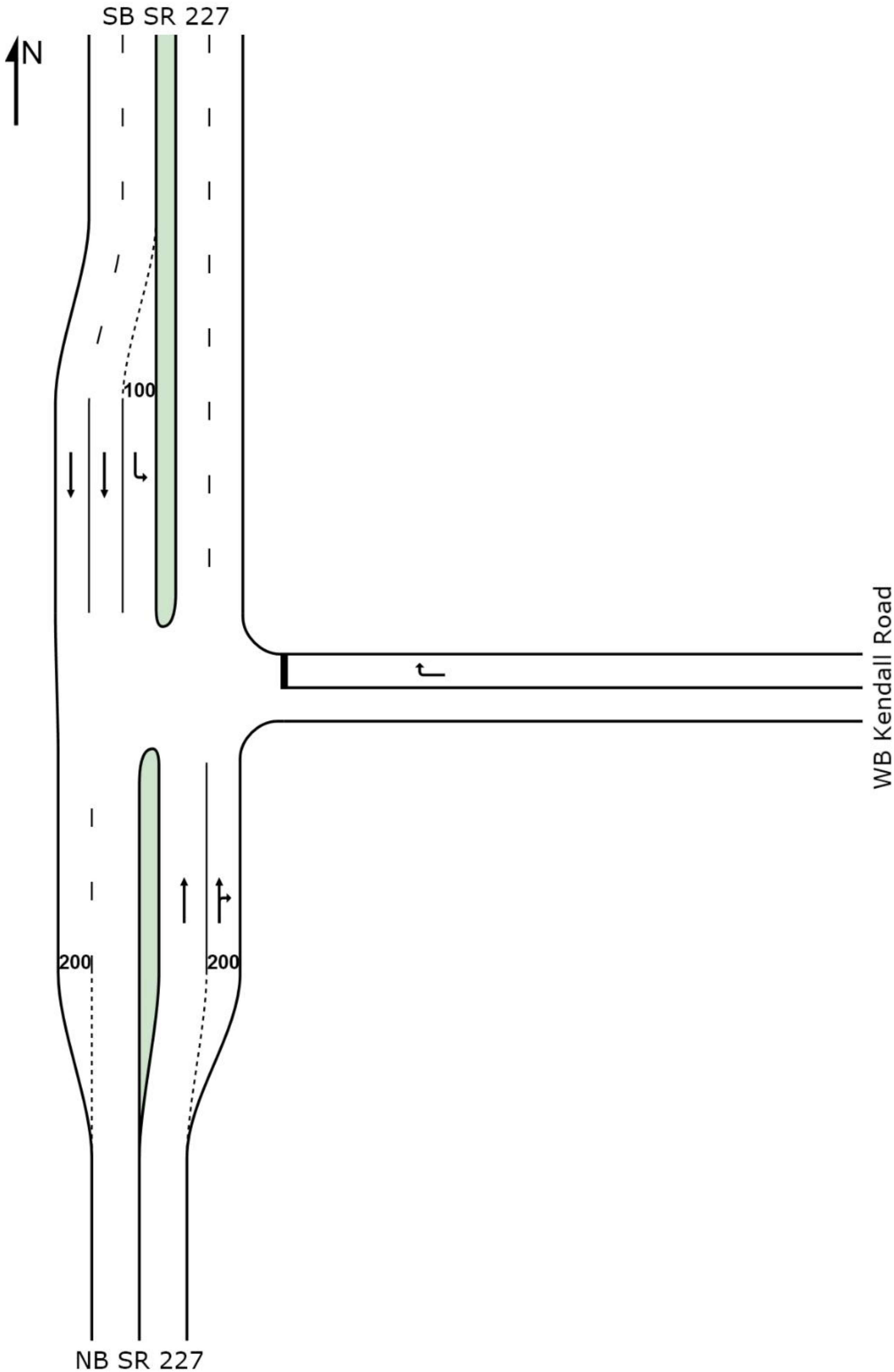
Site: Int02: 227-Farmhouse_2035 PM_01

Roundabout

Lane Use and Performance														
	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: NB SR 227													
Lane 1	402	3.0	1187	0.339	100	6.3	LOS A	1.8	45.5	Full	960	0.0	0.0
Lane 2[d]	402	3.0	1187	0.339	100	6.3	LOS A	1.8	45.5	Full	960	0.0	0.0
Approach	804	3.0		0.339		6.3	LOS A	1.8	45.5				
East: WB Fasrmhouse Ln													
Lane 1[d]	292	2.9	756	0.387	100	9.7	LOS A	1.9	48.8	Full	750	0.0	0.0
Approach	292	2.9		0.387		9.7	LOS A	1.9	48.8				
North: SB SR 227													
Lane 1	736	3.5	1226	0.601	100	10.2	LOS B	5.0	128.5	Full	790	0.0	0.0
Lane 2[d]	747	2.0	1244	0.601	100	10.1	LOS B	5.2	130.9	Full	790	0.0	0.0
Approach	1484	2.8		0.601		10.2	LOS B	5.2	130.9				
West: EB Farmhouse Ln / Airport Access													
Lane 1[d]	27	2.0	411	0.066	100	9.7	LOS A	0.2	5.6	Full	50	0.0	0.0
Approach	27	2.0		0.066		9.7	LOS A	0.2	5.6				
Intersection	2608	2.8		0.601		8.9	LOS A	5.2	130.9				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach



SB SR 227
N
100
200
200
WB Kendall Road
NB SR 227

LANE SUMMARY

Site: Int06: 227-Los Ranchos_2035 PM_01

Roundabout

Lane Use and Performance														
	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: NB SR 227													
Lane 1[d]	292	3.4	1158	0.252	100	5.4	LOS A	1.3	32.7	Full	2000	0.0	0.0
Lane 2	289	4.4	1148	0.252	100	5.5	LOS A	1.3	32.6	Short	200	0.0	0.0
Approach	581	3.9		0.252		5.4	LOS A	1.3	32.7				
East: WB Los Ranchos Rd													
Lane 1[d]	19	10.8	731	0.026	100	5.2	LOS A	0.1	2.5	Full	900	0.0	0.0
Approach	19	10.8		0.026		5.2	LOS A	0.1	2.5				
North: SB SR 227													
Lane 1	865	1.0	1365	0.634	100	10.3	LOS B	6.7	169.1	Full	1300	0.0	0.0
Lane 2[d]	865	1.0	1365	0.634	100	10.3	LOS B	6.7	169.1	Short	200	0.0	0.2
Approach	1731	1.0		0.634		10.3	LOS B	6.7	169.1				
West: EB Los Ranchos Rd													
Lane 1[d]	240	2.0	386	0.622	100	26.6	LOS D	2.3	58.6	Full	320	0.0	0.0
Approach	240	2.0		0.622		26.6	LOS D	2.3	58.6				
Intersection	2571	1.8		0.634		10.7	LOS B	6.7	169.1				

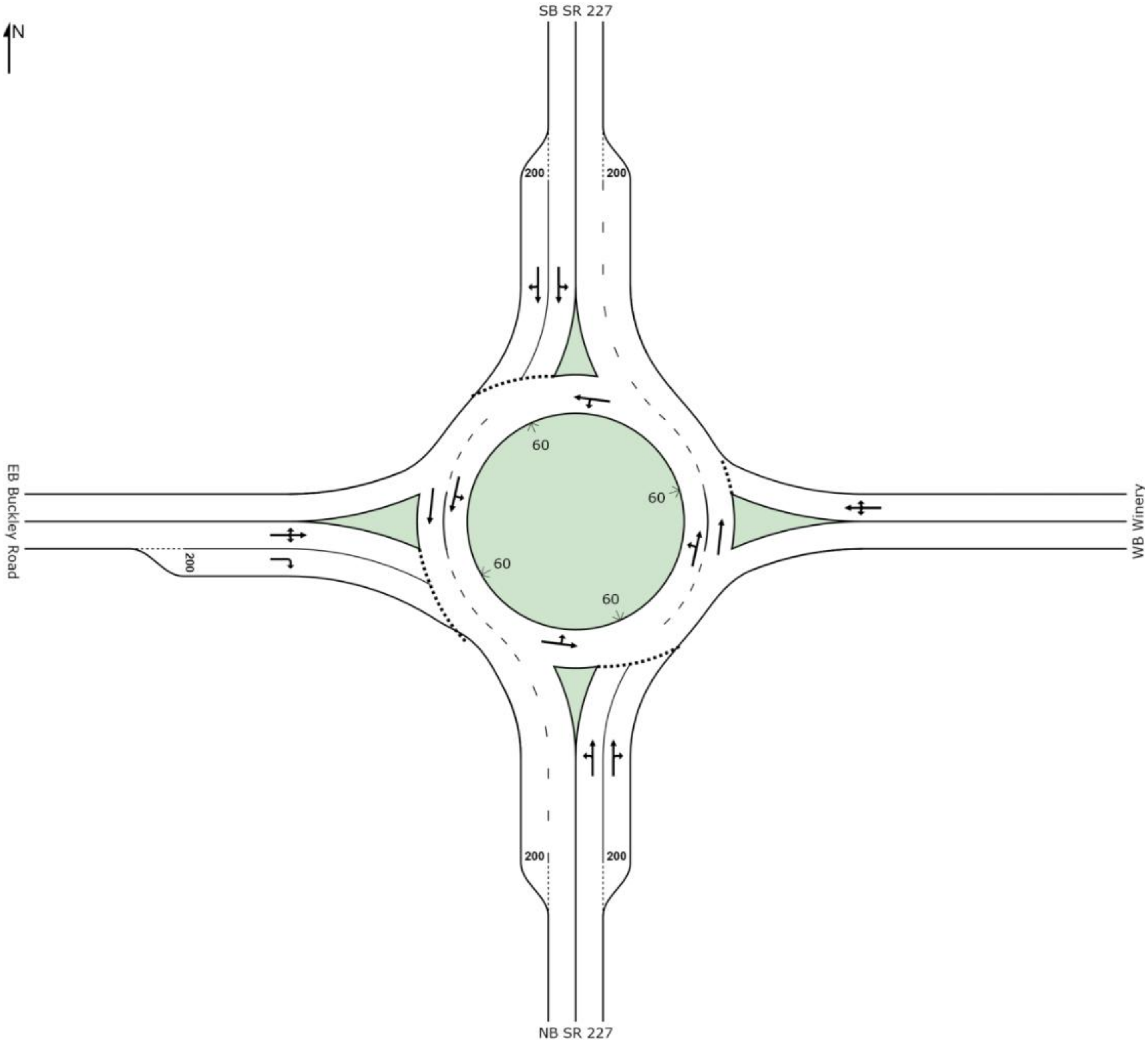
Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

SITE LAYOUT

Site: Int04: 227-Buckley_2035 PM_01a

Roundabout



LANE SUMMARY

Site: Int04: 227-Buckley_2035 PM_01a

Roundabout

Lane Use and Performance													
	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: NB SR 227													
Lane 1	393	2.6	1313	0.300	100	5.4	LOS A	1.7	43.6	Full	1220	0.0	0.0
Lane 2[d]	396	2.0	1321	0.300	100	5.4	LOS A	1.7	43.7	Short	200	0.0	0.0
Approach	789	2.3		0.300		5.4	LOS A	1.7	43.7				
East: WB Winery													
Lane 1[d]	9	0.0	752	0.012	100	4.9	LOS A	0.0	1.1	Full	1000	0.0	0.0
Approach	9	0.0		0.012		4.9	LOS A	0.0	1.1				
North: SB SR 227													
Lane 1[d]	751	2.0	1292	0.582	100	9.5	LOS A	5.1	128.3	Full	2290	0.0	0.0
Lane 2	750	2.3	1289	0.582	100	9.5	LOS A	5.0	127.9	Short	200	0.0	0.0
Approach	1501	2.1		0.582		9.5	LOS A	5.1	128.3				
West: EB Buckley Road													
Lane 1	61	5.9	345	0.176	100	13.5	LOS B	0.4	11.6	Full	560	0.0	0.0
Lane 2[d]	373	3.0	383	0.974	100	72.9	LOS F	8.5	218.3	Short	200	0.0	7.6
Approach	434	3.4		0.974		64.6	LOS F	8.5	218.3				
Intersection	2733	2.4		0.974		17.0	LOS C	8.5	218.3				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

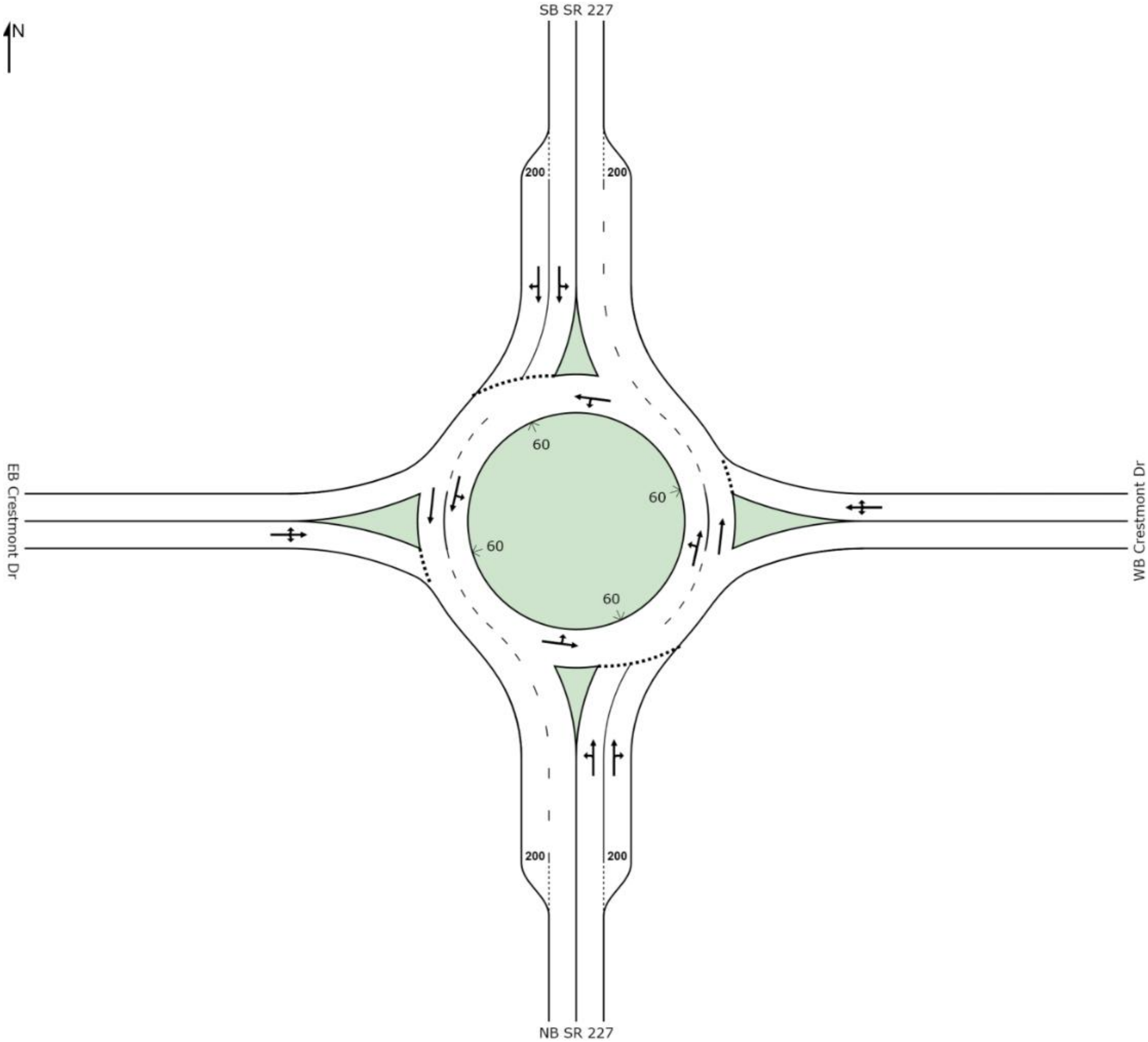
d Dominant lane on roundabout approach

SIDRA INTERSECTION 6

SITE LAYOUT

Site: Int05: 227-Crestmont_2035 PM_01

Roundabout



LANE SUMMARY

Site: Int05: 227-Crestmont_2035 PM_01

Roundabout

Lane Use and Performance													
	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: NB SR 227													
Lane 1	359	2.2	1338	0.269	100	5.0	LOS A	1.5	38.0	Full	1300	0.0	0.0
Lane 2[d]	360	2.0	1341	0.269	100	5.0	LOS A	1.5	38.0	Short	200	0.0	0.0
Approach	720	2.1		0.269		5.0	LOS A	1.5	38.0				
East: WB Crestmont Dr													
Lane 1[d]	3	0.0	811	0.004	100	4.5	LOS A	0.0	0.4	Full	1000	0.0	0.0
Approach	3	0.0		0.004		4.5	LOS A	0.0	0.4				
North: SB SR 227													
Lane 1	876	2.0	1381	0.634	100	10.2	LOS B	6.8	172.6	Full	1220	0.0	0.0
Lane 2[d]	875	2.1	1380	0.634	100	10.2	LOS B	6.8	172.4	Short	200	0.0	0.8
Approach	1752	2.0		0.634		10.2	LOS B	6.8	172.6				
West: EB Crestmont Dr													
Lane 1[d]	61	3.1	331	0.184	100	14.2	LOS B	0.5	11.7	Full	510	0.0	0.0
Approach	61	3.1		0.184		14.2	LOS B	0.5	11.7				
Intersection	2535	2.1		0.634		8.8	LOS A	6.8	172.6				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

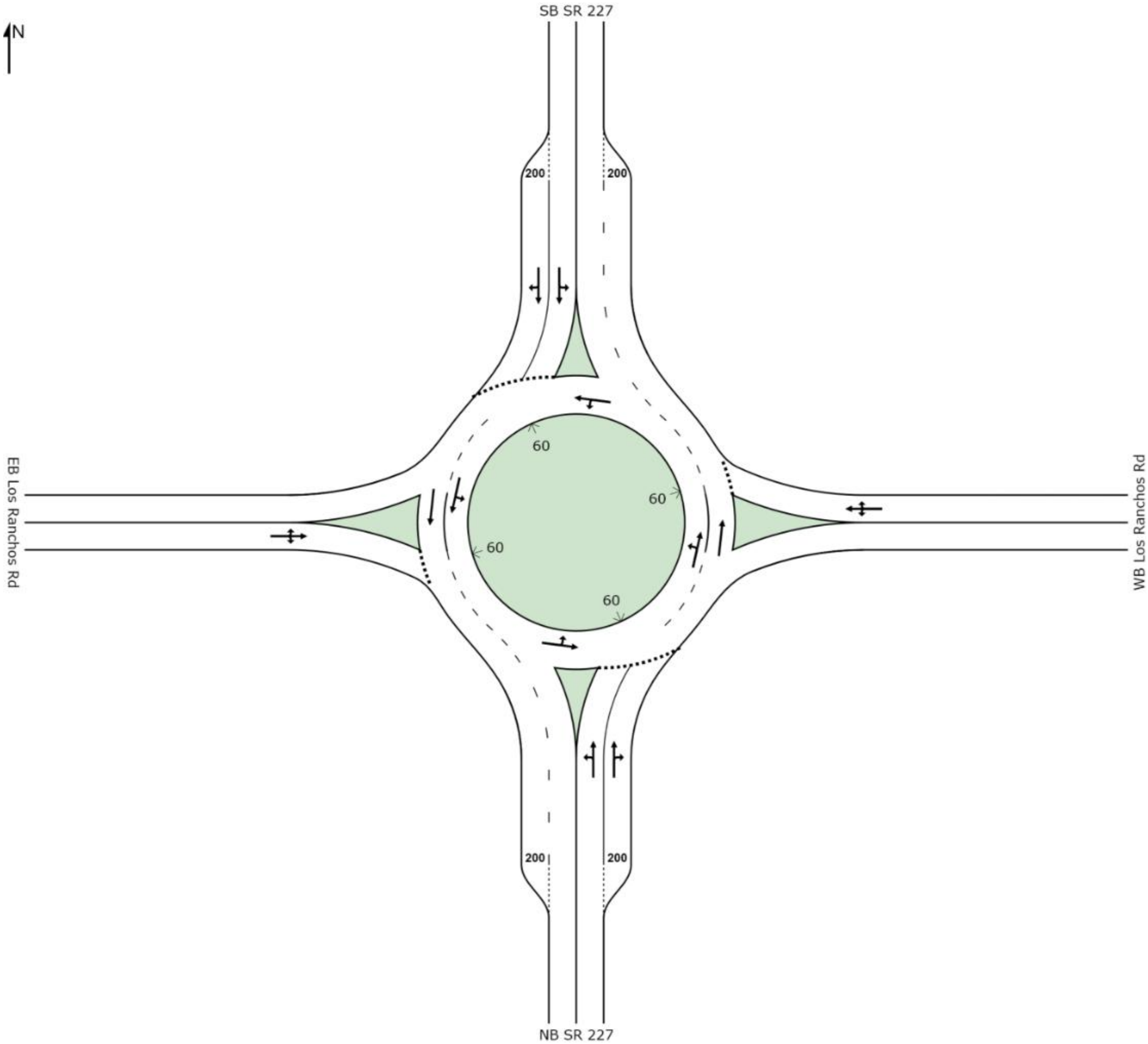
d Dominant lane on roundabout approach

SIDRA INTERSECTION 6

SITE LAYOUT

Site: Int06: 227-Los Ranchos_2035 PM_01

Roundabout



SIDRA INTERSECTION 6

LANE SUMMARY

Site: Int06: 227-Los Ranchos_2035 PM_01

Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	Demand Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	95% Back of Queue Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: NB SR 227													
Lane 1[d]	292	3.4	1158	0.252	100	5.4	LOS A	1.3	32.7	Full	2000	0.0	0.0
Lane 2	289	4.4	1148	0.252	100	5.5	LOS A	1.3	32.6	Short	200	0.0	0.0
Approach	581	3.9		0.252		5.4	LOS A	1.3	32.7				
East: WB Los Ranchos Rd													
Lane 1[d]	19	10.8	731	0.026	100	5.2	LOS A	0.1	2.5	Full	900	0.0	0.0
Approach	19	10.8		0.026		5.2	LOS A	0.1	2.5				
North: SB SR 227													
Lane 1	865	1.0	1365	0.634	100	10.3	LOS B	6.7	169.1	Full	1300	0.0	0.0
Lane 2[d]	865	1.0	1365	0.634	100	10.3	LOS B	6.7	169.1	Short	200	0.0	0.2
Approach	1731	1.0		0.634		10.3	LOS B	6.7	169.1				
West: EB Los Ranchos Rd													
Lane 1[d]	240	2.0	386	0.622	100	26.6	LOS D	2.3	58.6	Full	320	0.0	0.0
Approach	240	2.0		0.622		26.6	LOS D	2.3	58.6				
Intersection	2571	1.8		0.634		10.7	LOS B	6.7	169.1				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

NETWORK SUMMARY

Network: No proj Exist AM

New Network

Network Performance - Hourly Values								
Performance Measure	**Vehicles**		**Per Unit Distance**		**Percent**	**Persons**		
Network Level of Service (LOS)	LOS F							
Travel Time Index	0.40							
Speed Efficiency	0.14							
Congestion Coefficient	7.33							
Travel Speed (Average)	5.5	mph				5.5	mph	
Travel Distance (Total)	2571.9	veh-mi/h				3086.2	pers-mi/h	
Travel Time (Total)	471.4	veh-h/h				565.7	pers-h/h	
Desired Speed	40.0	mph						
Demand Flows (Total)	11317	veh/h				9993	pers/h	
Arrival Flows (Total)	8328	veh/h				9993	pers/h	
Percent Heavy Vehicles (Demand)	3.8	%						
Percent Heavy Vehicles (Arrival)	5.2	%						
Degree of Saturation	2.943							
Control Delay (Total)	399.63	veh-h/h				479.55	pers-h/h	
Control Delay (Average)	172.8	sec				172.8	sec	
Control Delay (Worst Lane)	946.9	sec						
Control Delay (Worst Movement)	946.9	sec				946.9	sec	
Geometric Delay (Average)	0.0	sec						
Stop-Line Delay (Average)	172.8	sec						
Queue Storage Ratio (Worst Lane)	7.18							
Total Effective Stops	5037	veh/h				6044	pers/h	
Effective Stop Rate	0.60	per veh	2.0	per mi		0.60	per pers	
Proportion Queued	0.54					0.54		
Performance Index	1281.8					1281.8		
Cost (Total)	7341.82	$/h	2.85	$/mi		7341.82	$/h	
Fuel Consumption (Total)	259.3	gal/h	0.101	gal/mi				
Fuel Economy	9.9	mpg						
Carbon Dioxide (Total)	2321.0	kg/h	902.5	g/mi				
Hydrocarbons (Total)	1.317	kg/h	0.512	g/mi				
Carbon Monoxide (Total)	8.894	kg/h	3.458	g/mi				
NOx (Total)	3.907	kg/h	1.519	g/mi				

Network Model Accuracy Level (largest change in degree of saturation for any lane): 1.0 %
Number of Iterations: 8
Network Level of Service (LOS) Method: HCM 2010.
Model used: US HCM (Customary).

Network Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	5,432,079	veh/y	4,796,783	pers/y
Delay	191,820	veh-h/y	230,184	pers-h/y
Effective Stops	2,417,558	veh/y	2,901,070	pers/y
Travel Distance	1,234,497	veh-mi/y	1,481,396	pers-mi/y
Travel Time	226,292	veh-h/y	271,551	pers-h/y
Cost	3,524,075	$/y	3,524,075	$/y
Fuel Consumption	124,442	gal/y		
Carbon Dioxide	1,114,097	kg/y		
Hydrocarbons	632	kg/y		
Carbon Monoxide	4,269	kg/y		
NOx	1,875	kg/y		

NETWORK SUMMARY

Network: No proj Exist PM

New Network

Network Performance - Hourly Values								
Performance Measure	**Vehicles**		**Per Unit Distance**		**Percent**	**Persons**		
Network Level of Service (LOS)	LOS F							
Travel Time Index	0.97							
Speed Efficiency	0.19							
Congestion Coefficient	5.34							
Travel Speed (Average)	7.5	mph				7.5	mph	
Travel Distance (Total)	2947.1	veh-mi/h				3536.6	pers-mi/h	
Travel Time (Total)	393.5	veh-h/h				472.2	pers-h/h	
Desired Speed	40.0	mph						
Demand Flows (Total)	9954	veh/h				11310	pers/h	
Arrival Flows (Total)	9425	veh/h				11310	pers/h	
Percent Heavy Vehicles (Demand)	2.3	%						
Percent Heavy Vehicles (Arrival)	2.4	%						
Degree of Saturation	2.038							
Control Delay (Total)	291.67	veh-h/h				350.01	pers-h/h	
Control Delay (Average)	111.4	sec				111.4	sec	
Control Delay (Worst Lane)	551.5	sec						
Control Delay (Worst Movement)	551.5	sec				551.5	sec	
Geometric Delay (Average)	0.0	sec						
Stop-Line Delay (Average)	111.4	sec						
Queue Storage Ratio (Worst Lane)	3.28							
Total Effective Stops	5161	veh/h				6193	pers/h	
Effective Stop Rate	0.55	per veh	1.8	per mi		0.55	per pers	
Proportion Queued	0.50					0.50		
Performance Index	908.0					908.0		
Cost (Total)	6062.82	$/h	2.06	$/mi		6062.82	$/h	
Fuel Consumption (Total)	220.0	gal/h	0.075	gal/mi				
Fuel Economy	13.4	mpg						
Carbon Dioxide (Total)	1963.0	kg/h	666.1	g/mi				
Hydrocarbons (Total)	1.114	kg/h	0.378	g/mi				
Carbon Monoxide (Total)	7.876	kg/h	2.672	g/mi				
NOx (Total)	2.256	kg/h	0.765	g/mi				

Network Model Accuracy Level (largest change in degree of saturation for any lane): 4.0 %
Number of Iterations: 10
Network Level of Service (LOS) Method: HCM 2010.
Model used: US HCM (Customary).

Network Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	4,777,794	veh/y	5,428,741	pers/y
Delay	140,003	veh-h/y	168,003	pers-h/y
Effective Stops	2,477,078	veh/y	2,972,494	pers/y
Travel Distance	1,414,628	veh-mi/y	1,697,554	pers-mi/y
Travel Time	188,892	veh-h/y	226,670	pers-h/y
Cost	2,910,153	$/y	2,910,153	$/y
Fuel Consumption	105,619	gal/y		
Carbon Dioxide	942,263	kg/y		
Hydrocarbons	535	kg/y		
Carbon Monoxide	3,780	kg/y		
NOx	1,083	kg/y		

SIDRA INTERSECTION 6

NETWORK SUMMARY

Network: No proj Future 2035 AM

New Network

Network Performance - Hourly Values

Performance Measure	Vehicles	Per Unit Distance	Percent	Persons
Network Level of Service (LOS)	LOS F			
Travel Time Index	0.40			
Speed Efficiency	0.14			
Congestion Coefficient	7.33			
Travel Speed (Average)	5.5 mph			5.5 mph
Travel Distance (Total)	2775.1 veh-mi/h			3330.1 pers-mi/h
Travel Time (Total)	508.5 veh-h/h			610.2 pers-h/h
Desired Speed	40.0 mph			
Demand Flows (Total)	12134 veh/h			10819 pers/h
Arrival Flows (Total)	9016 veh/h			10819 pers/h
Percent Heavy Vehicles (Demand)	3.8 %			
Percent Heavy Vehicles (Arrival)	5.1 %			
Degree of Saturation	3.000			
Control Delay (Total)	430.88 veh-h/h			517.05 pers-h/h
Control Delay (Average)	172.1 sec			172.1 sec
Control Delay (Worst Lane)	972.2 sec			
Control Delay (Worst Movement)	972.2 sec			972.2 sec
Geometric Delay (Average)	0.0 sec			
Stop-Line Delay (Average)	172.1 sec			
Queue Storage Ratio (Worst Lane)	7.38			
Total Effective Stops	5327 veh/h			6392 pers/h
Effective Stop Rate	0.59 per veh	1.9 per mi		0.59 per pers
Proportion Queued	0.53			0.53
Performance Index	1363.1			1363.1
Cost (Total)	7902.02 $/h	2.85 $/mi		7902.02 $/h
Fuel Consumption (Total)	279.0 gal/h	0.101 gal/mi		
Fuel Economy	9.9 mpg			
Carbon Dioxide (Total)	2498.0 kg/h	900.1 g/mi		
Hydrocarbons (Total)	1.419 kg/h	0.511 g/mi		
Carbon Monoxide (Total)	9.586 kg/h	3.454 g/mi		
NOx (Total)	4.213 kg/h	1.518 g/mi		

Network Model Accuracy Level (largest change in degree of saturation for any lane): 0.8 %
Number of Iterations: 10
Network Level of Service (LOS) Method: HCM 2010.
Model used: US HCM (Customary).

Network Performance - Annual Values

Performance Measure	Vehicles	Persons
Demand Flows (Total)	5,824,214 veh/y	5,192,943 pers/y
Delay	206,821 veh-h/y	248,185 pers-h/y
Effective Stops	2,556,868 veh/y	3,068,242 pers/y
Travel Distance	1,332,045 veh-mi/y	1,598,454 pers-mi/y
Travel Time	244,094 veh-h/y	292,913 pers-h/y
Cost	3,792,971 $/y	3,792,971 $/y
Fuel Consumption	133,915 gal/y	
Carbon Dioxide	1,199,021 kg/y	
Hydrocarbons	681 kg/y	
Carbon Monoxide	4,601 kg/y	
NOx	2,022 kg/y	

NETWORK SUMMARY

Network: No proj Future 2035 PM

New Network

Network Performance - Hourly Values								
Performance Measure	**Vehicles**		**Per Unit Distance**		**Percent**		**Persons**	
Network Level of Service (LOS)	LOS F							
Travel Time Index	0.61							
Speed Efficiency	0.15							
Congestion Coefficient	6.46							
Travel Speed (Average)	6.2	mph					6.2	mph
Travel Distance (Total)	3328.3	veh-mi/h					3993.9	pers-mi/h
Travel Time (Total)	537.7	veh-h/h					645.2	pers-h/h
Desired Speed	40.0	mph						
Demand Flows (Total)	12668	veh/h					13095	pers/h
Arrival Flows (Total)	10912	veh/h					13095	pers/h
Percent Heavy Vehicles (Demand)	2.3	%						
Percent Heavy Vehicles (Arrival)	2.7	%						
Degree of Saturation	4.148							
Control Delay (Total)	421.82	veh-h/h					506.19	pers-h/h
Control Delay (Average)	139.2	sec					139.2	sec
Control Delay (Worst Lane)	1552.5	sec						
Control Delay (Worst Movement)	1552.5	sec					1552.5	sec
Geometric Delay (Average)	0.0	sec						
Stop-Line Delay (Average)	139.2	sec						
Queue Storage Ratio (Worst Lane)	3.74							
Total Effective Stops	5990	veh/h					7188	pers/h
Effective Stop Rate	0.55	per veh	1.8	per mi			0.55	per pers
Proportion Queued	0.48						0.48	
Performance Index	1203.7						1203.7	
Cost (Total)	8118.21	$/h	2.44	$/mi			8118.21	$/h
Fuel Consumption (Total)	279.4	gal/h	0.084	gal/mi				
Fuel Economy	11.9	mpg						
Carbon Dioxide (Total)	2493.6	kg/h	749.2	g/mi				
Hydrocarbons (Total)	1.477	kg/h	0.444	g/mi				
Carbon Monoxide (Total)	9.827	kg/h	2.952	g/mi				
NOx (Total)	2.843	kg/h	0.854	g/mi				

Network Model Accuracy Level (largest change in degree of saturation for any lane): 4.0 %
Number of Iterations: 10
Network Level of Service (LOS) Method: HCM 2010.
Model used: US HCM (Customary).

Network Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	6,080,760	veh/y	6,285,470	pers/y
Delay	202,475	veh-h/y	242,971	pers-h/y
Effective Stops	2,875,048	veh/y	3,450,058	pers/y
Travel Distance	1,597,569	veh-mi/y	1,917,082	pers-mi/y
Travel Time	258,098	veh-h/y	309,718	pers-h/y
Cost	3,896,739	$/y	3,896,739	$/y
Fuel Consumption	134,107	gal/y		
Carbon Dioxide	1,196,948	kg/y		
Hydrocarbons	709	kg/y		
Carbon Monoxide	4,717	kg/y		
NOx	1,365	kg/y		

SIDRA INTERSECTION 6

NETWORK SUMMARY

Network: Signal Alt 2035 AM

New Network

Network Performance - Hourly Values								
Performance Measure	Vehicles		Per Unit Distance		Percent	Persons	
Network Level of Service (LOS)	LOS B						
Travel Time Index	6.43						
Speed Efficiency	0.68						
Congestion Coefficient	1.47						
Travel Speed (Average)	27.1	mph				27.1	mph
Travel Distance (Total)	3832.2	veh-mi/h				4598.7	pers-mi/h
Travel Time (Total)	141.2	veh-h/h				169.5	pers-h/h
Desired Speed	40.0	mph					
Demand Flows (Total)	12322	veh/h				14787	pers/h
Arrival Flows (Total)	12322	veh/h				14787	pers/h
Percent Heavy Vehicles (Demand)	3.8	%					
Percent Heavy Vehicles (Arrival)	3.8	%					
Degree of Saturation	0.821						
Control Delay (Total)	55.19	veh-h/h				66.23	pers-h/h
Control Delay (Average)	16.1	sec				16.1	sec
Control Delay (Worst Lane)	59.6	sec					
Control Delay (Worst Movement)	59.6	sec				59.6	sec
Geometric Delay (Average)	0.0	sec					
Stop-Line Delay (Average)	16.1	sec					
Queue Storage Ratio (Worst Lane)	3.27						
Total Effective Stops	7106	veh/h				8527	pers/h
Effective Stop Rate	0.58	per veh	1.9	per mi		0.58	per pers
Proportion Queued	0.63					0.63	
Performance Index	576.0					576.0	
Cost (Total)	3517.16	$/h	0.92	$/mi		3517.16	$/h
Fuel Consumption (Total)	242.0	gal/h	0.063	gal/mi			
Fuel Economy	15.8	mpg					
Carbon Dioxide (Total)	2166.6	kg/h	565.4	g/mi			
Hydrocarbons (Total)	0.766	kg/h	0.200	g/mi			
Carbon Monoxide (Total)	9.607	kg/h	2.507	g/mi			
NOx (Total)	5.366	kg/h	1.400	g/mi			

Network Model Accuracy Level (largest change in degree of saturation for any lane): 0.7 %
Number of Iterations: 2
Network Level of Service (LOS) Method: HCM 2010.
Model used: US HCM (Customary).

Network Performance - Annual Values				
Performance Measure	Vehicles		Persons	
Demand Flows (Total)	5,914,753	veh/y	7,097,704	pers/y
Delay	26,490	veh-h/y	31,788	pers-h/y
Effective Stops	3,410,646	veh/y	4,092,775	pers/y
Travel Distance	1,839,470	veh-mi/y	2,207,364	pers-mi/y
Travel Time	67,792	veh-h/y	81,350	pers-h/y
Cost	1,688,236	$/y	1,688,236	$/y
Fuel Consumption	116,165	gal/y		
Carbon Dioxide	1,039,955	kg/y		
Hydrocarbons	368	kg/y		
Carbon Monoxide	4,611	kg/y		
NOx	2,576	kg/y		

SIDRA INTERSECTION 6

NETWORK SUMMARY

Network: Signal Alt 2035 PM

New Network

Network Performance - Hourly Values								
Performance Measure	**Vehicles**		**Per Unit Distance**		**Percent**		**Persons**	
Network Level of Service (LOS)	LOS B							
Travel Time Index	6.79							
Speed Efficiency	0.71							
Congestion Coefficient	1.41							
Travel Speed (Average)	28.4	mph					28.4	mph
Travel Distance (Total)	4035.5	veh-mi/h					4842.6	pers-mi/h
Travel Time (Total)	141.9	veh-h/h					170.3	pers-h/h
Desired Speed	40.0	mph						
Demand Flows (Total)	12706	veh/h					15248	pers/h
Arrival Flows (Total)	12706	veh/h					15248	pers/h
Percent Heavy Vehicles (Demand)	2.3	%						
Percent Heavy Vehicles (Arrival)	2.3	%						
Degree of Saturation	0.881							
Control Delay (Total)	48.75	veh-h/h					58.50	pers-h/h
Control Delay (Average)	13.8	sec					13.8	sec
Control Delay (Worst Lane)	55.9	sec						
Control Delay (Worst Movement)	55.9	sec					55.9	sec
Geometric Delay (Average)	0.0	sec						
Stop-Line Delay (Average)	13.8	sec						
Queue Storage Ratio (Worst Lane)	1.56							
Total Effective Stops	6877	veh/h					8252	pers/h
Effective Stop Rate	0.54	per veh	1.7	per mi			0.54	per pers
Proportion Queued	0.58						0.58	
Performance Index	534.7						534.7	
Cost (Total)	3254.35	$/h	0.81	$/mi			3254.35	$/h
Fuel Consumption (Total)	222.4	gal/h	0.055	gal/mi				
Fuel Economy	18.1	mpg						
Carbon Dioxide (Total)	1985.4	kg/h	492.0	g/mi				
Hydrocarbons (Total)	0.740	kg/h	0.183	g/mi				
Carbon Monoxide (Total)	9.575	kg/h	2.373	g/mi				
NOx (Total)	3.816	kg/h	0.946	g/mi				

Network Model Accuracy Level (largest change in degree of saturation for any lane): 0.2 %
Number of Iterations: 2
Network Level of Service (LOS) Method: HCM 2010.
Model used: US HCM (Customary).

Network Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	6,099,021	veh/y	7,318,825	pers/y
Delay	23,399	veh-h/y	28,079	pers-h/y
Effective Stops	3,300,730	veh/y	3,960,877	pers/y
Travel Distance	1,937,040	veh-mi/y	2,324,448	pers-mi/y
Travel Time	68,109	veh-h/y	81,731	pers-h/y
Cost	1,562,088	$/y	1,562,088	$/y
Fuel Consumption	106,753	gal/y		
Carbon Dioxide	953,003	kg/y		
Hydrocarbons	355	kg/y		
Carbon Monoxide	4,596	kg/y		
NOx	1,832	kg/y		

NETWORK SUMMARY

Network: RAB Future 2035 AM

New Network

Network Performance - Hourly Values								
Performance Measure	**Vehicles**		**Per Unit Distance**		**Percent**		**Persons**	
Network Level of Service (LOS)	LOS B							
Travel Time Index	7.15							
Speed Efficiency	0.74							
Congestion Coefficient	1.35							
Travel Speed (Average)	29.7	mph					29.7	mph
Travel Distance (Total)	3933.8	veh-mi/h					4720.5	pers-mi/h
Travel Time (Total)	132.3	veh-h/h					158.8	pers-h/h
Desired Speed	40.0	mph						
Demand Flows (Total)	12321	veh/h					14786	pers/h
Arrival Flows (Total)	12321	veh/h					14786	pers/h
Percent Heavy Vehicles (Demand)	3.8	%						
Percent Heavy Vehicles (Arrival)	3.8	%						
Degree of Saturation	0.736							
Control Delay (Total)	28.80	veh-h/h					34.56	pers-h/h
Control Delay (Average)	8.4	sec					8.4	sec
Control Delay (Worst Lane)	17.4	sec						
Control Delay (Worst Movement)	17.4	sec					17.4	sec
Geometric Delay (Average)	0.0	sec						
Stop-Line Delay (Average)	8.4	sec						
Queue Storage Ratio (Worst Lane)	0.25							
Total Effective Stops	3165	veh/h					3798	pers/h
Effective Stop Rate	0.26	per veh	0.8	per mi			0.26	per pers
Proportion Queued	0.36						0.36	
Performance Index	202.6						202.6	
Cost (Total)	3380.90	$/h	0.86	$/mi			3380.90	$/h
Fuel Consumption (Total)	245.1	gal/h	0.062	gal/mi				
Fuel Economy	16.0	mpg						
Carbon Dioxide (Total)	2194.6	kg/h	557.9	g/mi				
Hydrocarbons (Total)	0.761	kg/h	0.193	g/mi				
Carbon Monoxide (Total)	9.728	kg/h	2.473	g/mi				
NOx (Total)	5.345	kg/h	1.359	g/mi				

Network Model Accuracy Level (largest change in degree of saturation for any lane): 0.0 %
Number of Iterations: 2
Network Level of Service (LOS) Method: HCM 2010.
Model used: US HCM (Customary).

Network Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	5,914,247	veh/y	7,097,097	pers/y
Delay	13,823	veh-h/y	16,587	pers-h/y
Effective Stops	1,519,285	veh/y	1,823,142	pers/y
Travel Distance	1,888,216	veh-mi/y	2,265,859	pers-mi/y
Travel Time	63,515	veh-h/y	76,218	pers-h/y
Cost	1,622,832	$/y	1,622,832	$/y
Fuel Consumption	117,667	gal/y		
Carbon Dioxide	1,053,422	kg/y		
Hydrocarbons	365	kg/y		
Carbon Monoxide	4,669	kg/y		
NOx	2,565	kg/y		

NETWORK SUMMARY

Network: RAB Future 2035 PM

New Network

Network Performance - Hourly Values								
Performance Measure	**Vehicles**		**Per Unit Distance**		**Percent**		**Persons**	
Network Level of Service (LOS)	LOS B							
Travel Time Index	7.16							
Speed Efficiency	0.74							
Congestion Coefficient	1.34							
Travel Speed (Average)	29.8	mph					29.8	mph
Travel Distance (Total)	4136.6	veh-mi/h					4963.9	pers-mi/h
Travel Time (Total)	138.9	veh-h/h					166.7	pers-h/h
Desired Speed	40.0	mph						
Demand Flows (Total)	12705	veh/h					15246	pers/h
Arrival Flows (Total)	12705	veh/h					15246	pers/h
Percent Heavy Vehicles (Demand)	2.3	%						
Percent Heavy Vehicles (Arrival)	2.3	%						
Degree of Saturation	0.670							
Control Delay (Total)	28.86	veh-h/h					34.63	pers-h/h
Control Delay (Average)	8.2	sec					8.2	sec
Control Delay (Worst Lane)	30.0	sec						
Control Delay (Worst Movement)	30.0	sec					30.0	sec
Geometric Delay (Average)	0.0	sec						
Stop-Line Delay (Average)	8.2	sec						
Queue Storage Ratio (Worst Lane)	0.24							
Total Effective Stops	2625	veh/h					3149	pers/h
Effective Stop Rate	0.21	per veh	0.6	per mi			0.21	per pers
Proportion Queued	0.33						0.33	
Performance Index	211.8						211.8	
Cost (Total)	3257.41	$/h	0.79	$/mi			3257.41	$/h
Fuel Consumption (Total)	232.4	gal/h	0.056	gal/mi				
Fuel Economy	17.8	mpg						
Carbon Dioxide (Total)	2074.7	kg/h	501.6	g/mi				
Hydrocarbons (Total)	0.766	kg/h	0.185	g/mi				
Carbon Monoxide (Total)	9.883	kg/h	2.389	g/mi				
NOx (Total)	3.938	kg/h	0.952	g/mi				

Network Model Accuracy Level (largest change in degree of saturation for any lane): 0.0 %
Number of Iterations: 2
Network Level of Service (LOS) Method: HCM 2010.
Model used: US HCM (Customary).

Network Performance - Annual Values				
Performance Measure	**Vehicles**		**Persons**	
Demand Flows (Total)	6,098,516	veh/y	7,318,219	pers/y
Delay	13,853	veh-h/y	16,623	pers-h/y
Effective Stops	1,259,780	veh/y	1,511,735	pers/y
Travel Distance	1,985,552	veh-mi/y	2,382,663	pers-mi/y
Travel Time	66,663	veh-h/y	79,995	pers-h/y
Cost	1,563,558	$/y	1,563,558	$/y
Fuel Consumption	111,560	gal/y		
Carbon Dioxide	995,857	kg/y		
Hydrocarbons	367	kg/y		
Carbon Monoxide	4,744	kg/y		
NOx	1,890	kg/y		

APPENDIX J

COST SENSITIVITY AND RETURN OF INVESTMENT WORKSHEETS

San Luis Obispo Council of Governments — Capital Cost Worksheet

INT_02 SR 227 at Farmhouse Lane

B/C Target	Capital Cost: SIGNAL (a)	Capital Cost: ROUNDABOUT (b)	Added Cost for Roundabout (c) = (b - a)	Project Constants: Added O&M Cost for Roundabout (d)	Project Constants: Total Benefits (e)	Total Costs (f) = (c + d)	B/C (g) = (e / f)
Actual	$ 1,250,000	$ 2,000,000	$ 750,000	$ (85,485)	$ 766,350	$ 664,515	1.15
High	$ 1,375,000	$ 1,800,000	$ 425,000			$ 339,515	2.26
Low	$ 1,125,000	$ 2,200,000	$ 1,075,000			$ 989,515	0.77
Breakeven	$ 1,250,000	$ 2,101,835	$ 851,835			$ 766,350	1.00
Custom 1							
Custom 2							

Capital Cost Relationship (B/C=1.00)

SIGNAL	ROUNDABOUT
$ -	$ 600,000
$ -	$ 1,000,000
$ 548,165	$ 1,400,000
$ 948,165	$ 1,800,000
$ 1,348,165	$ 2,200,000
$ 1,748,165	$ 2,600,000
$ 2,148,165	$ 3,000,000
$ 2,548,165	$ 3,400,000
$ 2,948,165	$ 3,800,000
$ 3,348,165	$ 4,200,000

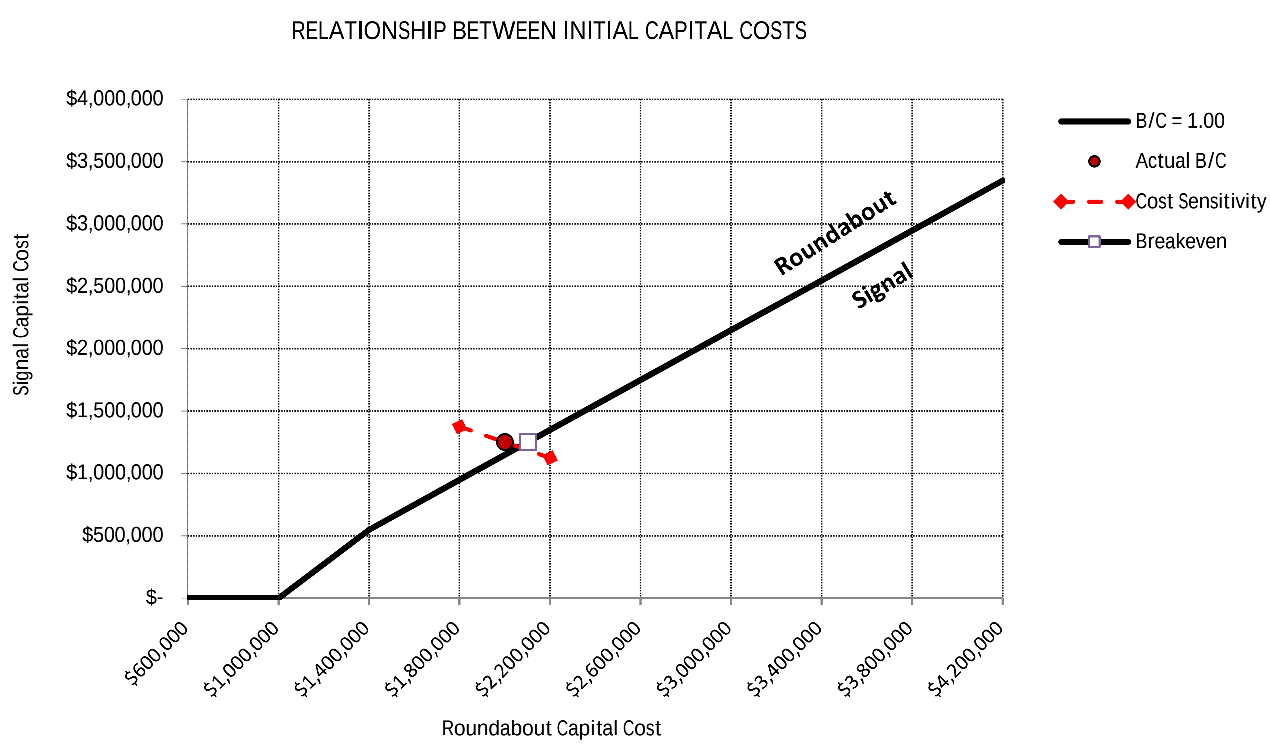
Cost Sensitivity Assumptions

B/C Target	Percent Adjustment to Cost: Signal	Percent Adjustment to Cost: Roundabout
High	10%	-10%
Low	-10%	10%
Breakeven	0%	5%
Custom 1		
Custom 2		

Chart Assumptions

Cost Increase	$ 400,000	(x axis major unit)
Min Signal Cost	$ 400,000	(Min. cost to construct a signal)

NOTE: Breakeven is the capital cost budget for a roundabout based on the actual capital cost of the signal alternative and a B/C = 1.00



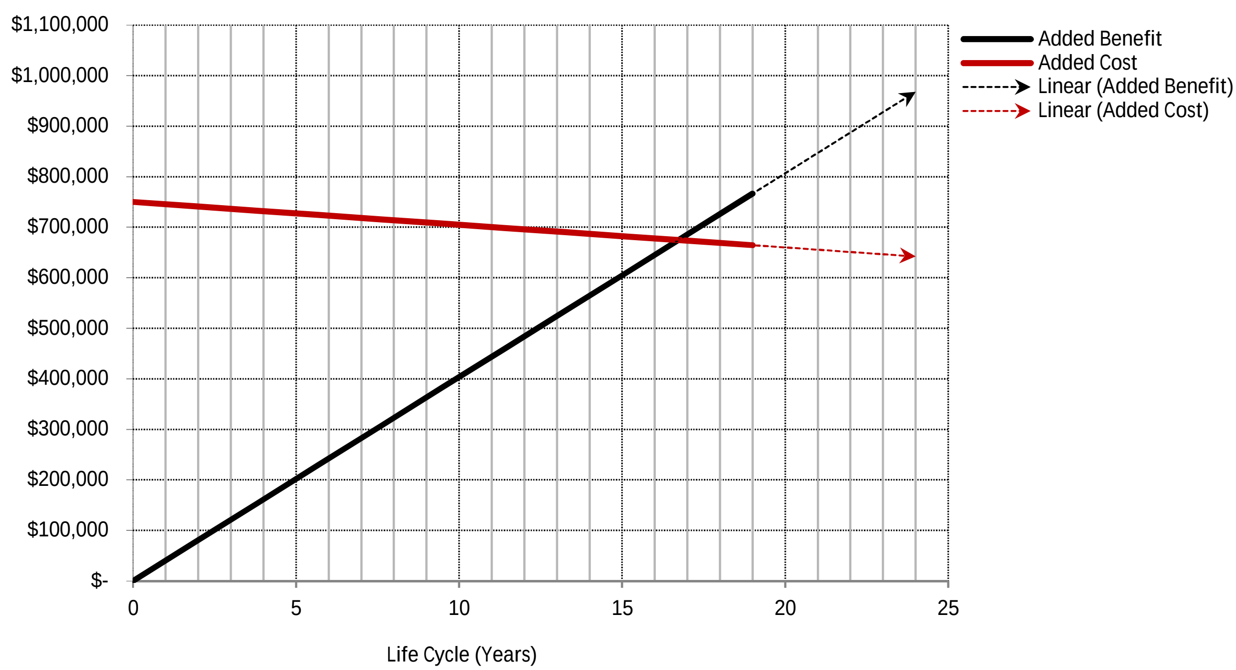
San Luis Obispo Council of Governments | Payback Worksheet

INT_02 SR 227 at Farmhouse Lane

Initial Investment:	$ 750,000	Added Cost for Roundabout		No. Periods:	10
Life Cycle:	19	Years		Period Factor:	1.9
Total Benefits:	$ 766,350	Benefits of Roundabout			
Total Added O&M Costs:	$ (85,485)	Added Cost to Roundabout			
O&M Cost for Period:	$ (8,548.50)				
Benefit for Period:	$ 76,635.00				

Period	Year	Added Cost	Added Benefit
0	0.0	$ 750,000	0
1	1.9	$ 741,452	$ 76,635
2	3.8	$ 732,903	$ 153,270
3	5.7	$ 724,355	$ 229,905
4	7.6	$ 715,806	$ 306,540
5	9.5	$ 707,258	$ 383,175
6	11.4	$ 698,709	$ 459,810
7	13.3	$ 690,161	$ 536,445
8	15.2	$ 681,612	$ 613,080
9	17.1	$ 673,064	$ 689,715
10	19.0	$ 664,515	$ 766,350

RELATIONSHIP BETWEEN ROUNDABOUT BENEFITS AND ADDED COSTS



San Luis Obispo Council of Governments

Capital Cost Worksheet

INT_04 SR 227 at Buckley Road

B/C Target	Capital Cost: SIGNAL (a)	Capital Cost: ROUNDABOUT (b)	Added Cost for Roundabout (c) = (b - a)	Project Constants: Added O&M Cost for Roundabout (d)	Project Constants: Total Benefits (e)	Total Costs (f) = (c + d)	B/C (g) = (e / f)
Actual	$ 2,640,000	$ 2,700,000	$ 60,000	$ (109,110)	$ 1,531,859	$ (49,110)	(31.19)
High	$ 2,904,000	$ 2,430,000	$ (474,000)			$ (583,110)	(2.63)
Low	$ 2,376,000	$ 2,970,000	$ 594,000			$ 484,890	3.16
Breakeven	$ 2,640,000	$ 4,280,969	$ 1,640,969			$ 1,531,859	1.00
Custom 1							
Custom 2							

Capital Cost Relationship
(B/C=1.00)

SIGNAL	ROUNDABOUT
$ -	$ 1,500,000
$ -	$ 2,000,000
$ 859,031	$ 2,500,000
$ 1,359,031	$ 3,000,000
$ 1,859,031	$ 3,500,000
$ 2,359,031	$ 4,000,000
$ 2,859,031	$ 4,500,000
$ 3,359,031	$ 5,000,000
$ 3,859,031	$ 5,500,000
$ 4,359,031	$ 6,000,000

Cost Sensitivity Assumptions

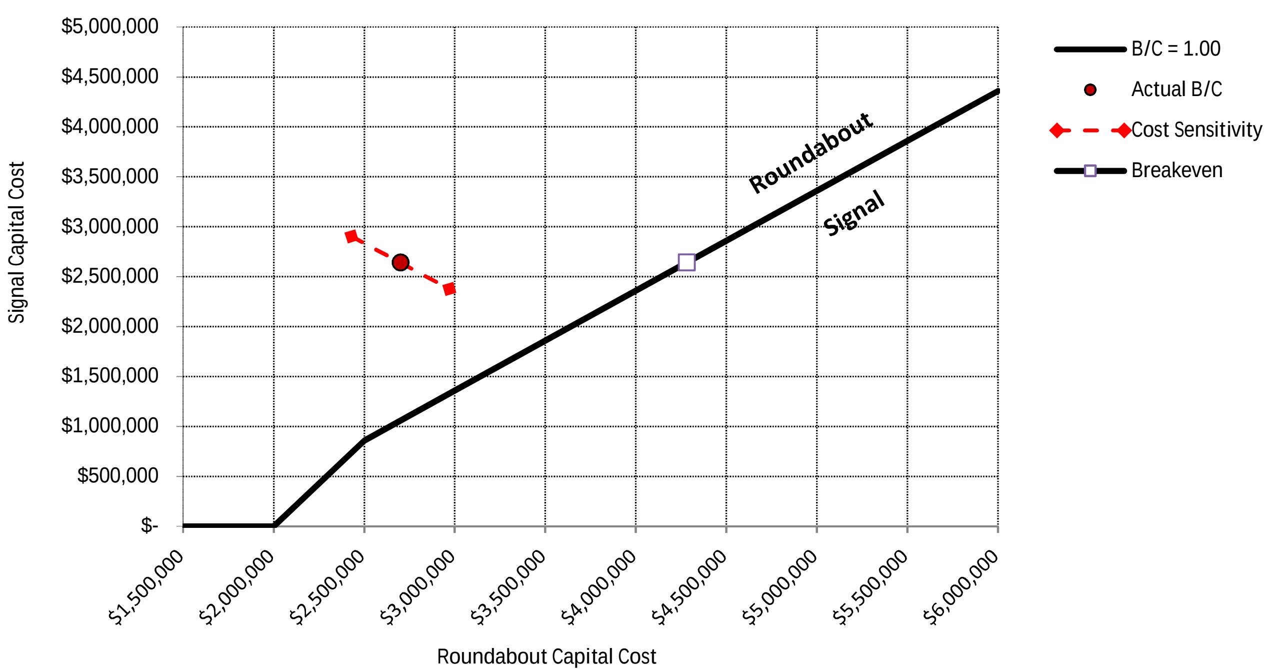
B/C Target	Percent Adjustment to Cost: Signal	Percent Adjustment to Cost: Roundabout
High	10%	-10%
Low	-10%	10%
Breakeven	0%	59%
Custom 1		
Custom 2		

Chart Assumptions

Cost Increase	$ 500,000	(x axis major unit)
Min Signal Cost	$ 400,000	(Min. cost to construct a signal)

NOTE: Breakeven is the capital cost budget for a roundabout based on the actual capital cost of the signal alternative and a B/C = 1.00

RELATIONSHIP BETWEEN INITIAL CAPITAL COSTS



San Luis Obispo Council of Governments

Payback Worksheet

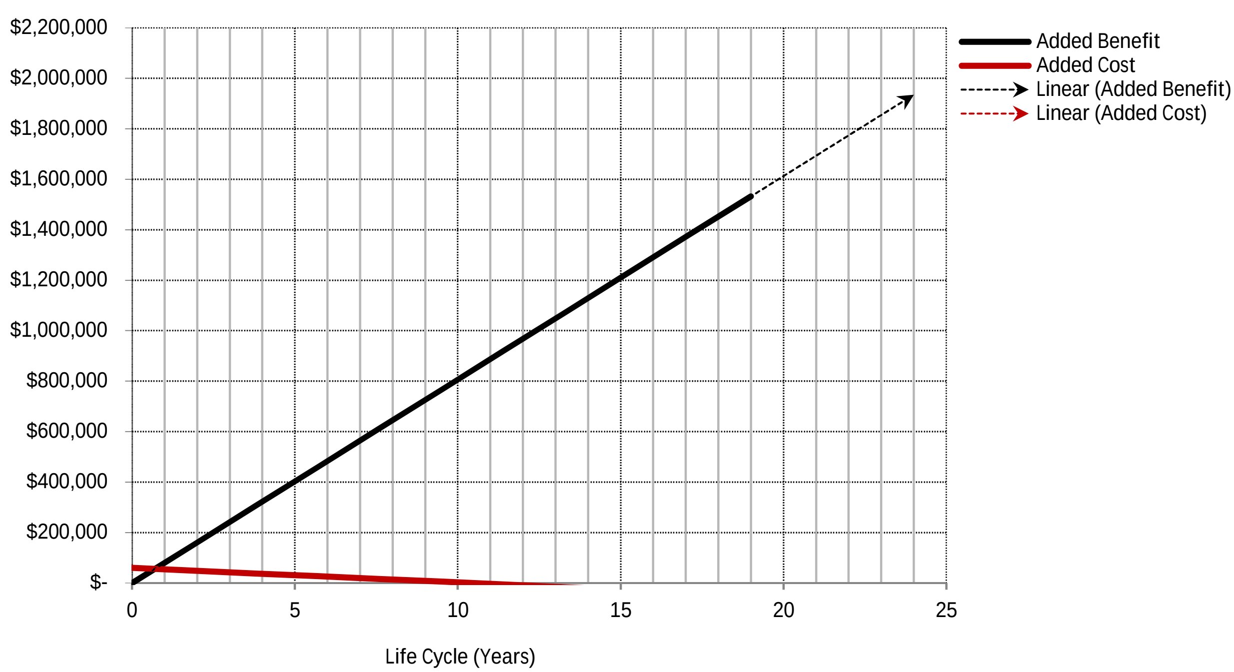
INT_04 SR 227 at Buckley Road

Initial Investment:	$	60,000	Added Cost for Roundabout
Life Cycle:		19	Years
Total Benefits:	$	1,531,859	Benefits of Roundabout
Total Added O&M Costs:	$	(109,110)	Added Cost to Roundabout
O&M Cost for Period:	$	(10,911.00)	
Benefit for Period:	$	153,185.90	

No. Periods:	10
Period Factor:	1.9

Period	Year	Added Cost	Added Benefit
0	0.0	$ 60,000	0
1	1.9	$ 49,089	$ 153,186
2	3.8	$ 38,178	$ 306,372
3	5.7	$ 27,267	$ 459,558
4	7.6	$ 16,356	$ 612,744
5	9.5	$ 5,445	$ 765,930
6	11.4	$ (5,466)	$ 919,115
7	13.3	$ (16,377)	$ 1,072,301
8	15.2	$ (27,288)	$ 1,225,487
9	17.1	$ (38,199)	$ 1,378,673
10	19.0	$ (49,110)	$ 1,531,859

RELATIONSHIP BETWEEN ROUNDABOUT BENEFITS AND ADDED COSTS



San Luis Obispo Council of Governments — Capital Cost Worksheet

INT_05 SR 227 at Crestmont Drive

B/C Target	Capital Cost: SIGNAL (a)	Capital Cost: ROUNDABOUT (b)	Added Cost for Roundabout (c) = (b - a)	Project Constants: Added O&M Cost for Roundabout (d)	Project Constants: Total Benefits (e)	Total Costs (f) = (c + d)	B/C (g) = (e / f)
Actual	$ 1,920,000	$ 2,700,000	$ 780,000	$ (98,193)	$ 1,319,248	$ 681,807	1.93
High	$ 2,112,000	$ 2,430,000	$ 318,000			$ 219,807	6.00
Low	$ 1,728,000	$ 2,970,000	$ 1,242,000			$ 1,143,807	1.15
Breakeven	$ 1,920,000	$ 3,337,441	$ 1,417,441			$ 1,319,248	1.00
Custom 1							
Custom 2							

Capital Cost Relationship (B/C=1.00)

SIGNAL	ROUNDABOUT
$ -	$ 1,000,000
$ -	$ 1,400,000
$ -	$ 1,800,000
$ 782,559	$ 2,200,000
$ 1,182,559	$ 2,600,000
$ 1,582,559	$ 3,000,000
$ 1,982,559	$ 3,400,000
$ 2,382,559	$ 3,800,000
$ 2,782,559	$ 4,200,000
$ 3,182,559	$ 4,600,000

Cost Sensitivity Assumptions

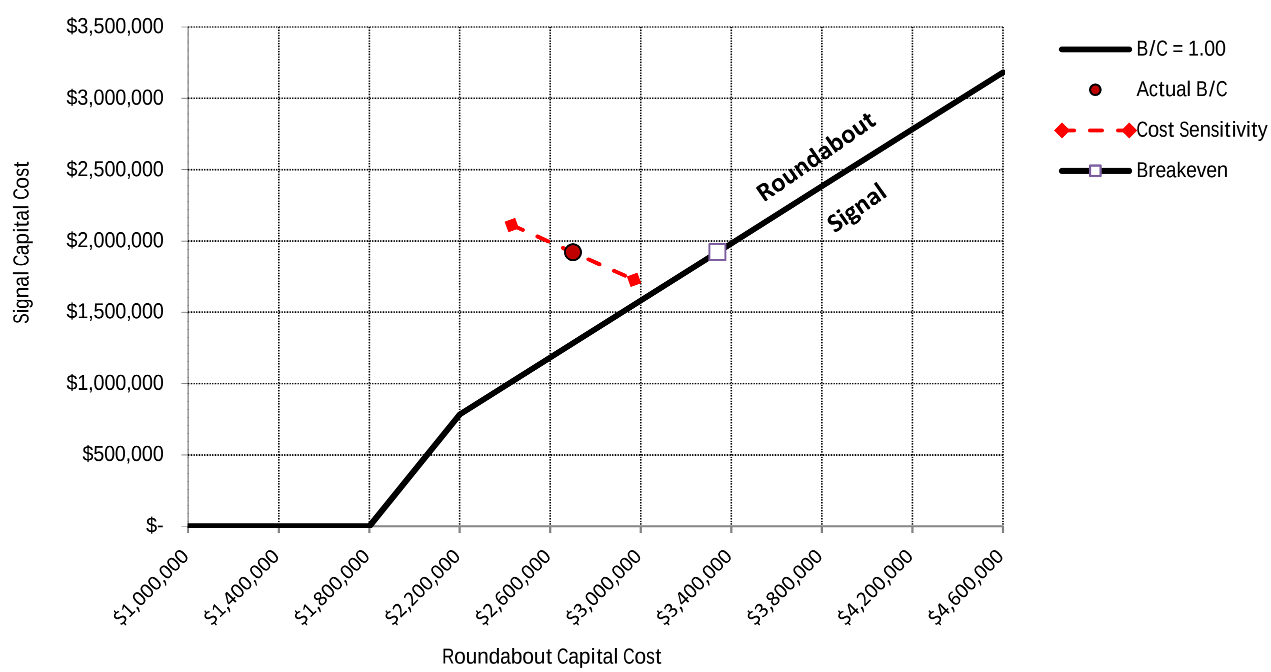
B/C Target	Percent Adjustment to Cost: Signal	Percent Adjustment to Cost: Roundabout
High	10%	-10%
Low	-10%	10%
Breakeven	0%	24%
Custom 1		
Custom 2		

Chart Assumptions

Cost Increase	$ 400,000	(x axis major unit)
Min Signal Cost	$ 400,000	(Min. cost to construct a signal)

NOTE: Breakeven is the capital cost budget for a roundabout based on the actual capital cost of the signal alternative and a B/C = 1.00

RELATIONSHIP BETWEEN INITIAL CAPITAL COSTS



San Luis Obispo Council of Governments

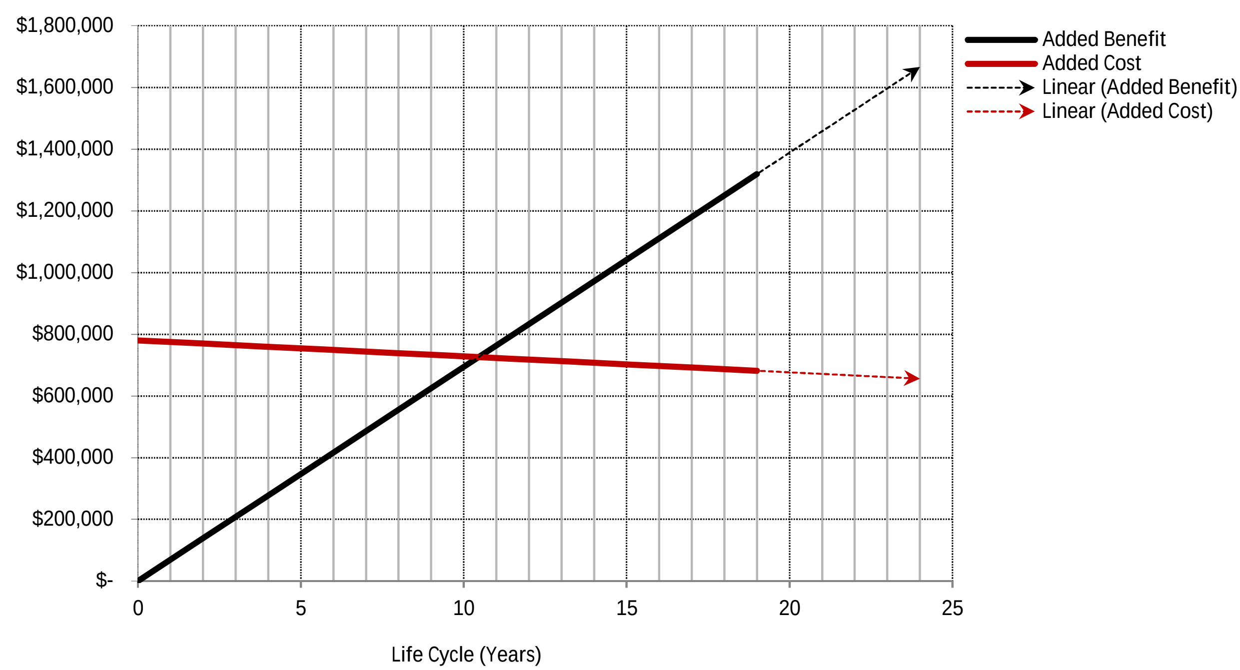
Payback Worksheet

INT_05 SR 227 at Crestmont Drive

Initial Investment:	$	780,000	Added Cost for Roundabout	No. Periods:	10
Life Cycle:		19	Years	Period Factor:	1.9
Total Benefits:	$	1,319,248	Benefits of Roundabout		
Total Added O&M Costs:	$	(98,193)	Added Cost to Roundabout		
O&M Cost for Period:	$	(9,819.30)			
Benefit for Period:	$	131,924.80			

Period	Year	Added Cost	Added Benefit
0	0.0	$ 780,000	0
1	1.9	$ 770,181	$ 131,925
2	3.8	$ 760,361	$ 263,850
3	5.7	$ 750,542	$ 395,774
4	7.6	$ 740,723	$ 527,699
5	9.5	$ 730,904	$ 659,624
6	11.4	$ 721,084	$ 791,549
7	13.3	$ 711,265	$ 923,474
8	15.2	$ 701,446	$ 1,055,398
9	17.1	$ 691,626	$ 1,187,323
10	19.0	$ 681,807	$ 1,319,248

RELATIONSHIP BETWEEN ROUNDABOUT BENEFITS AND ADDED COSTS



San Luis Obispo Council of Governments — Capital Cost Worksheet

INT_06 SR 227 at Los Ranchos Road

B/C Target	Capital Cost: SIGNAL (a)	Capital Cost: ROUNDABOUT (b)	Added Cost for Roundabout (c) = (b - a)	Project Constants: Added O&M Cost for Roundabout (d)	Project Constants: Total Benefits (e)	Total Costs (f) = (c + d)	B/C (g) = (e / f)
Actual	$ 3,430,000	$ 2,700,000	$ (730,000)	$ (109,110)	$ 1,971,114	$ (839,110)	(2.35)
High	$ 3,773,000	$ 2,430,000	$ (1,343,000)			$ (1,452,110)	(1.36)
Low	$ 3,087,000	$ 2,970,000	$ (117,000)			$ (226,110)	(8.72)
Breakeven	$ 3,430,000	$ 5,510,224	$ 2,080,224			$ 1,971,114	1.00
Custom 1							
Custom 2							

Capital Cost Relationship
(B/C=1.00)

SIGNAL	ROUNDABOUT
$ -	$ 2,000,000
$ 419,776	$ 2,500,000
$ 919,776	$ 3,000,000
$ 1,419,776	$ 3,500,000
$ 1,919,776	$ 4,000,000
$ 2,419,776	$ 4,500,000
$ 2,919,776	$ 5,000,000
$ 3,419,776	$ 5,500,000
$ 3,919,776	$ 6,000,000
$ 4,419,776	$ 6,500,000

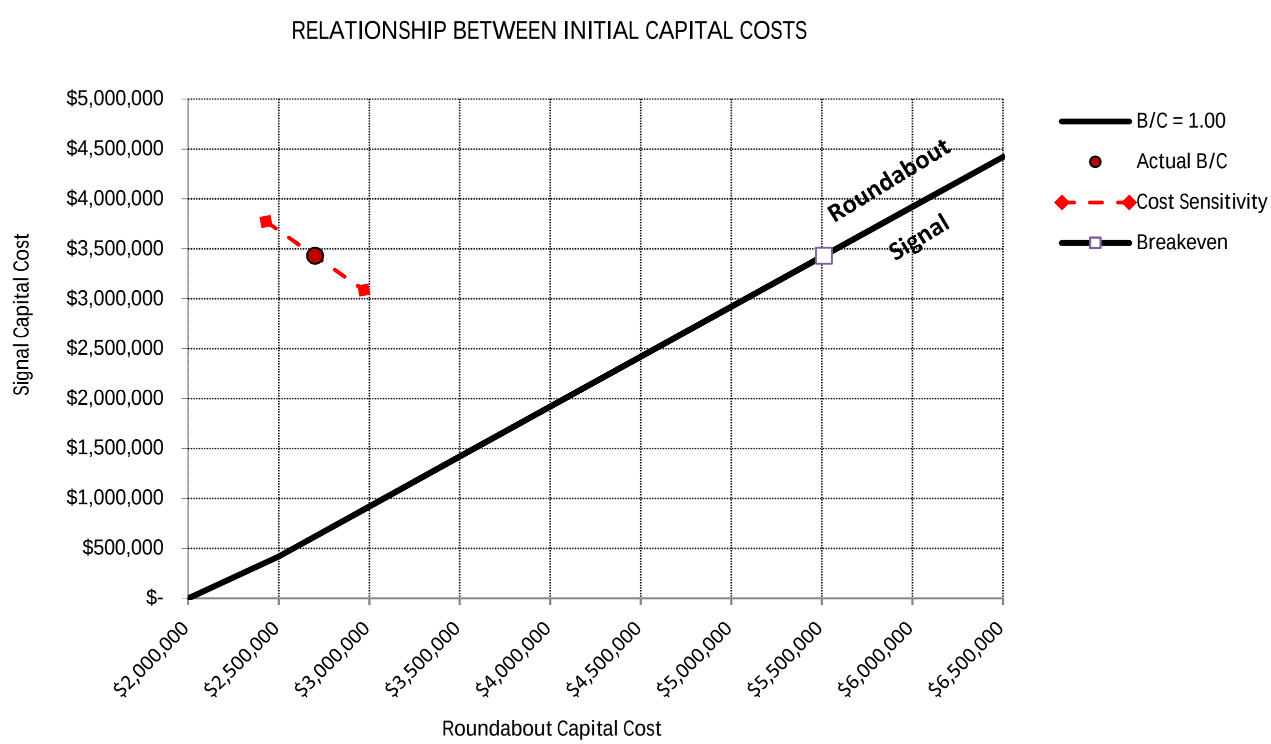
Cost Sensitivity Assumptions

B/C Target	Percent Adjustment to Cost: Signal	Percent Adjustment to Cost: Roundabout
High	10%	-10%
Low	-10%	10%
Breakeven	0%	104%
Custom 1		
Custom 2		

Chart Assumptions

Cost Increase	$ 500,000	(x axis major unit)
Min Signal Cost	$ 400,000	(Min. cost to construct a signal)

NOTE: Breakeven is the capital cost budget for a roundabout based on the actual capital cost of the signal alternative and a B/C = 1.00



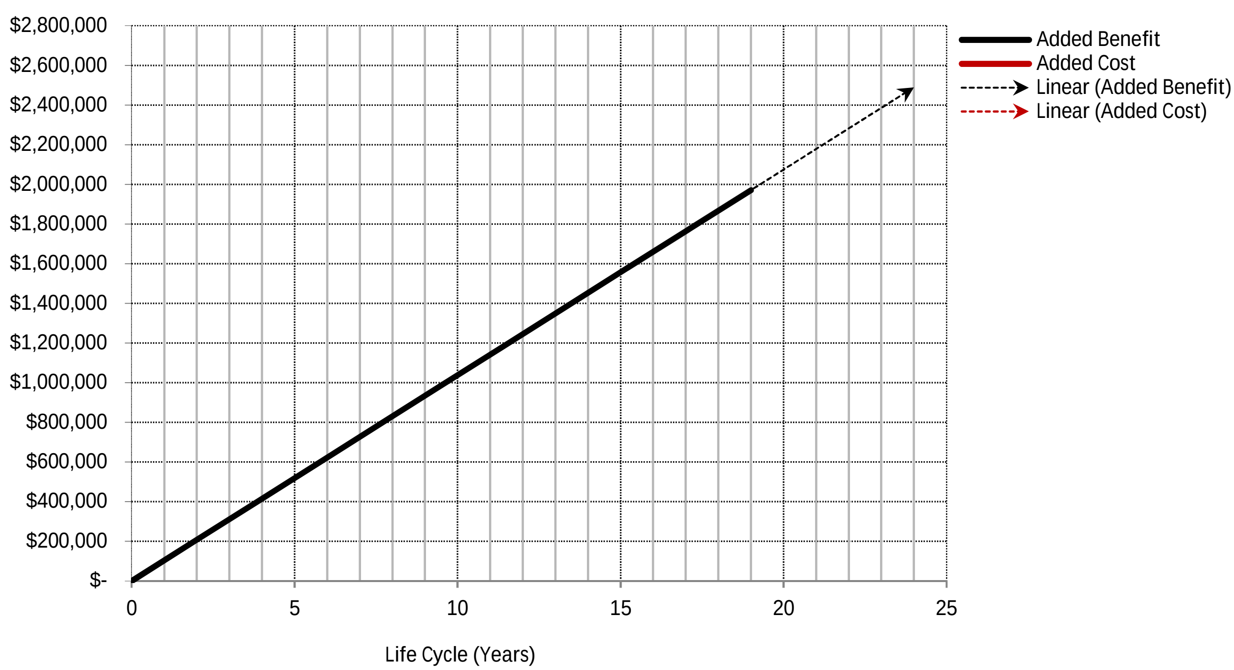
San Luis Obispo Council of Governments | Payback Worksheet

INT_06 SR 227 at Los Ranchos Road

Initial Investment:	$	(730,000)	Added Cost for Roundabout	No. Periods:	10
Life Cycle:		19	Years	Period Factor:	1.9
Total Benefits:	$	1,971,114	Benefits of Roundabout		
Total Added O&M Costs:	$	(109,110)	Added Cost to Roundabout		
O&M Cost for Period:	$	(10,911.00)			
Benefit for Period:	$	197,111.40			

Period	Year	Added Cost	Added Benefit
0	0.0	$ (730,000)	0
1	1.9	$ (740,911)	$ 197,111
2	3.8	$ (751,822)	$ 394,223
3	5.7	$ (762,733)	$ 591,334
4	7.6	$ (773,644)	$ 788,446
5	9.5	$ (784,555)	$ 985,557
6	11.4	$ (795,466)	$ 1,182,668
7	13.3	$ (806,377)	$ 1,379,780
8	15.2	$ (817,288)	$ 1,576,891
9	17.1	$ (828,199)	$ 1,774,003
10	19.0	$ (839,110)	$ 1,971,114

RELATIONSHIP BETWEEN ROUNDABOUT BENEFITS AND ADDED COSTS



APPENDIX K

RELINQUISHMENT COST ANALYSIS

Technical Memorandum

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MEMORANDUM

Kittelson and Associates, Inc.
1170-0003

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WATER RESOURCES

Date: June 17, 2016

To: Jorge Aguilar, PE

From: Aaron Yonker, PE

Subject: SR 227 Relinquishment Pavement Management Assessment

INTRODUCTION

This memorandum provides planning-level preventative maintenance cost information to assist Caltrans and the County of San Luis Obispo with the planning level discussions on whether action should be taken to move in the direction of relinquishment. In addition, this memorandum provides a general overview of the State Highway relinquishment process and also the County's Pavement Management Program, in which this portion of SR 227 would be incorporated if relinquished to County control.

Caltrans recognizes that at times, conventional highways or portions thereof throughout the state can become indistinguishable from a local city street or a county road to the users and the local jurisdictions within which they are located. These facilities may serve local transportation needs to a greater degree than regional traffic and, therefore, represent facilities that may be considered for potential relinquishment.

Relinquishment of State highways is authorized under Section 73 of the California Street and Highway Code, and the relinquishment process is outlined in Chapter 25 of the Caltrans Project Development Procedure Manual (PDPM).

The initial step in the relinquishment process is the Relinquishment Assessment Report (RAR). Caltrans Districts 5 and headquarters use the RAR to determine if it is appropriate and feasible from a transportation system perspective to pursue the relinquishment of a route, or a portion of a route, and if it is determined appropriate, then the relinquishment process would be initiated as outlined in the PDPM.

Through a SLOCOG planning effort for SR 227 for a portion of the route just south of the City of San Luis Obispo, Caltrans District 5 and the County of San Luis Obispo are in the preliminary planning-level review process. This technical memorandum is intended to assist in that process and does not constitute a full RAR. If the parties decide to initiate the relinquishment process, the steps outlined in the PDPM would be followed, and Caltrans would be responsible for facilitating the negotiation of the terms of the relinquishment with the County. Ultimately, the California Transportation Commission has final authority for the relinquishment, including approval of any costs to relinquish.

WALLACE GROUP
A California Corporation

612 CLARION CT
SAN LUIS OBISPO
CALIFORNIA 93401

T 805 544-4011
F 805 544-4294

www.wallacegroup.us

BACKGROUND

California State Route 227 (SR 227) is located within San Luis Obispo County, CA, and currently serves as an alternate to US 101 between the City of Arroyo Grande and the City of San Luis Obispo. A recent increase in traffic congestion and perceived safety concerns by residents along SR 227 has led the San Luis Obispo Council of Governments (SLOCOG) board, in June 2015, to fund an Operational Analysis of the corridor.

The resulting *SR 227 Operational Study*, in partnership with San Luis Obispo County, the City of San Luis Obispo, and the California Department of Transportation (Caltrans), is currently exploring short-term and long-term improvements to address the increased traffic congestion and safety for vehicles, bicyclists and pedestrians within the corridor. Currently, $1.75M has been committed for operational improvements within the corridor. Final planning level improvement options will be discussed in the *SR 227 Operational Study,* expected to be completed in Fall of 2016.

Caltrans relinquishment would provide the County with jurisdictional control of the relinquished portions of the SR 227 corridor, allowing the County to pursue future improvements as they deem necessary. Removing this portion of the corridor from the State Highway System provides economic benefit to Caltrans as well, since it reduces future maintenance costs, capital improvement costs, and exposure to tort liability.

Relinquishment further provides an increase in the County's responsiveness to community interest in the administration, planning, construction, and operation of facilities, resulting in a cost savings to taxpayers by eliminating the need for State encroachment permits. However, the transfer of jurisdiction to the County will also transfer the future maintenance costs, capital improvement costs, and tort liability exposure to the County.

Prior to initiating relinquishment, Caltrans must first determine the appropriateness of the relinquishment and whether relinquishment makes sense from a transportation system perspective.

LIMITS OF CONSIDERATION

For the purpose of this analysis, a Relinquishment Corridor was established to facilitate the analysis and costing. This corridor was broken into the following two segments: *Segment 1* and *Segment 2*, with the division between the two segments at the intersection of Buckley Road (roughly the halfway point in this section). See Figure 1.

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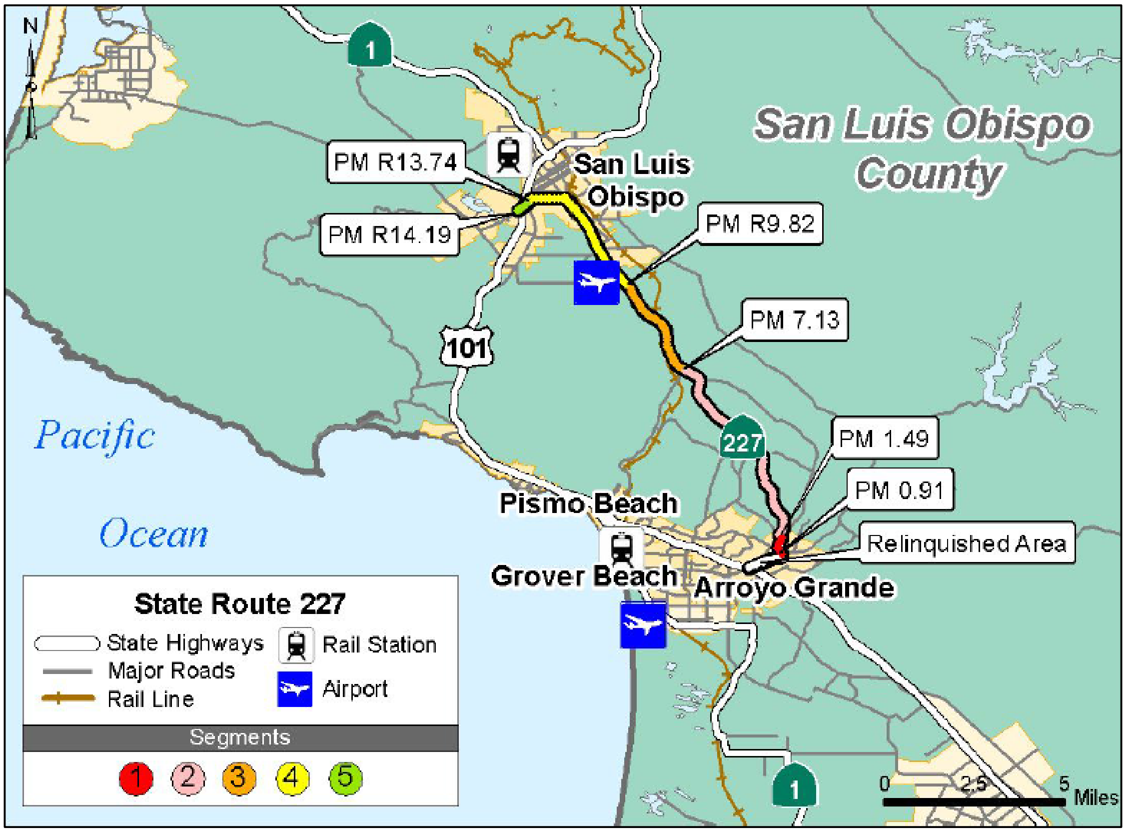
Figure 1 - SR 227 Area Map



Source: Caltrans SR 227 Transportation Planning Fact Sheet, September 2009

Currently, the portion of SR 227 located between Price Canyon Road (PM 7.1) to the San Luis Obispo City limits (PM 10.3), which includes the Segments described above, is undergoing capital improvements by Caltrans. The improvements consist of pavement resurfacing with Gap Graded RHMA and improvements to existing guardrail.

It is assumed for the purposes of this memorandum, that the roadway within the proposed Segments will therefore be in a state of "good repair" at the completion of the improvement project. Preventative maintenance cost estimates proposed in this memorandum are based upon that assumption.

COUNTY ANNUAL MAINTENANCE PLAN

The County currently maintains a formal pavement management program (PMP) for documenting road conditions, forecasting pavement maintenance and scheduling maintenance funds for the County's road network. Through this program all roads under County jurisdiction are ranked and prioritized based on their condition and the demand of the roadway under consideration.

All County roads with a pavement condition index (PCI) greater than 55 receive a classification of "Good" and are designated as Tier 1. Tier 1 roads include all roads that can be preserved merely with surface treatments, not full roadway rehabilitation. Tier 1 roads are effectively maintained with chip seals and microsurfacing treatments. Chip seal and microsurfacing projects are performed under contract with County road crews doing preparation work in advance of the resurfacing work.

If the County accepts the transfer of SR 227 between San Luis Obispo City limits and Los Ranchos Road, it is assumed that the roadway will be incorporated into the County PMP as a Tier 1 road and will be maintained in the near-term through preventative surface treatments.

PAVEMENT PRESERVATION CONSIDERATIONS

Left untreated, asphalt surfaces subjected to traffic loads age and become oxidized, resulting in a brittle dry-surface which allows fine aggregates within the mix to easily erode from the surface. This in-turn exposes additional finer aggregates to oxidation and erosion, resulting in the release of larger aggregates and water intrusion into the mix and supporting structural sections.

As roadway pavement conditions deteriorate over time, the cost to repair the roadway increases exponentially. For example, it costs twelve times less to maintain a road to a level that requires preventative maintenance treatments (i.e. fog seals, microsurfacing, chip seals, thin overlays) compared to a road that is at the end of its service life and subject to removal and repair[1].

Preventative maintenance treatment applications for the proposed Relinquishment Corridor were evaluated based on standard industry recommendations as well as comparison with the County preventative maintenance activities outlined in the County Pavement Management Program (PMP).

These recommendations include: fog seal treatment every 2 years, and microsurfacing treatments every 6 years, over a projected 20-year life-cycle, at which time pavement resurfacing with a gap-graded recycled hot-mix asphalt (RHMA) and rubberized asphalt similar to the current 2016 Caltrans improvement project is recommended.

The County does not incorporate Fog Seals into their pavement preservation schedule. However, in our experience, we have found that a rejuvenating fog seal can assist with reducing the oxidation and the loss of fines. The rejuvenating fog seal will also make the pavement more flexible and assist with deterring reflective cracking from bleeding through.

A general description of the proposed 20-year life-cycle treatments is provided below.

Fog Seal

A fog seal treatment is the application of a specially formulated asphalt emulsion to an existing asphalt pavement surface by spray application (i.e. fogging). Fog seals are applied by a distributor truck that slightly heats the asphalt emulsion before application. Fog seal applications serve to seal narrow cracks, slightly restore lost flexibility to the pavement surface, provide a deep black surface color, and most importantly help preserve the

[1] 2014 California Statewide Local Streets and Roads Needs Assessment.

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underlying pavement structure. Roadways chosen for cyclical fog seal applications would typically be treated every two to four years.

Microsurfacing

Microsurfacing consists of a mixture of polymer modified asphalt emulsion, mineral aggregate, mineral filler, water and other additives which are properly proportioned, mixed, and applied to the paved surface as a single operation. Microsurfacing preserves and protects the underlying pavement structure while providing a new driving surface. Roads chosen for Microsurfacing application are generally those which have low to moderate distress, no rutting, and narrow crack width. Microsurfacing application is typically applied on a cyclical basis, occurring every five to seven years.

Grind and Overlay with RHMA and Rubberized Asphalt

Rubberized asphalt is a hot-mixed asphalt pavement containing crumb rubber. The crumb rubber serves as a "modifier" to the liquid asphalt. Its addition gives the liquid asphalt greater viscosity (resistance to flow) and improves other properties which resist reflective cracking and rutting and prolong pavement life. During the grind and overlay process, the old oxidized pavement surface is removed and an overlay of new pavement is placed and compacted. A grind and overlay consisting of RHMA and/or rubberized asphalt similar to the current 2016 Caltrans is considered for the end of the 20-year life cycle.

In addition to the preventative maintenance items discussed above, additional preventative maintenance will be required on an intermittent and recurring basis. This includes such tasks as: *crack sealing, asphalt patching, shoulder repairs, culvert repair/cleaning, tree trimming, guardrail damage repair and replacement, etc.*

The County PMP indicates that many of these activities are currently performed by County Road crews in advance of chip seal and microsurfacing contracts. These items have therefore been excluded from the following cost analysis. It is recommended however that the County allocate funds for these task based on historical County cost data and at a level proportionate to other similar stretches of roadway within County jurisdiction.

PREVENTATIVE MAINTENANCE COSTS

Unit prices were established for the three preventative maintenance treatment options under consideration (Fog Seal, Microsurfacing, Grind and Overlay with RHMA and Rubberized Asphalt).

The cost per lane mile for Microsurfacing and Fog Seal include: traffic control (construction area signs, traffic control systems, and portable changeable message signs), treatment application, and 25% of the construction costs for project design, bidding, and construction management and administration.

The cost per lane mile for Grind and Overlay is derived from the ongoing 2016 Caltrans SR 227 Overlay Project (excluding guardrail repairs) and includes 30% of the

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construction costs for project design, bidding, and construction management and administration.

Proposed Unit Prices for Preventative Maintenance Treatment Options

Item Description	Unit	Unit Price* ($)
Fog Seal	Lane-Mile	$13,200
Microsurfacing	Lane-Mile	$20,200
Grind and Overlay	Lane-Mile	$142,000

***** *Fog seal costs based on historic average from Santa Barbara County*

* *Microsurfacing and Fog Seal unit price based on recent SLO County roadway improvement project bid results 2014-15 and 2015-16.*

* *Grind and Overlay unit prices based on Caltrans SR 227 Overlay Project (Contract No. 05-1F9404).*

For the purposes of this assessment, it is assumed that the RHMA and Rubberized Asphalt overlay project currently underway by Caltrans will be completed this calendar year and that the improvements implemented by the project will bring the proposed Relinquishment Corridor into a state of "good repair" at that time.

For this reason, 2016 has been assigned as the *base-year* for which future cyclic preventive maintenance activities and costs are based. All costs provided below, beyond 2016, are inflated on a 2.5% basis per year for all future years. Should relinquishment occur outside of the current calendar year, the following pavement management plan will need to be adjusted relative to the deferment time.

Estimated Cost for Preventative Maintenance Treatment Options

Segment No. 1: City Limits to Buckley Road

Year Beyond Base-Year	Calendar Year	Treatment Type	Total Estimated Cost	Lane Miles	Unit Cost per Lane Mile
2	2018	Fog Seal	$46,050	3.3	$13,975
4	2020	Fog Seal	$48,400	3.3	$14,675
6	2022	Microsurfacing	$77,650	3.3	$23,550
8	2024	Fog Seal	$53,500	3.3	$16,225
10	2026	Fog Seal	$56,250	3.3	$17,050
13	2029	Microsurfacing	$92,450	3.3	$28,025
15	2031	Fog Seal	$63,750	3.3	$19,350
17	2033	Fog Seal	$67,000	3.3	$20,300
20	2036	Grind and Overlay	$777,050	3.3	$235,500
		Total Cost 20 year	**$1,282,100**		

Segment No. 2: Buckley Road to Los Ranchos Road

Year Beyond Base-Year	Calendar Year	Treatment Type	Total Estimated Cost	Lane Miles	Unit Cost per Lane Mile
2	2018	Fog Seal	$38,050	2.7	$14,100
4	2020	Fog Seal	$40,050	2.7	$14,825
6	2022	Microsurfacing	$64,150	2.7	$23,775
8	2024	Fog Seal	$44,250	2.7	$16,375
10	2026	Fog Seal	$46,500	2.7	$17,225
13	2029	Microsurfacing	$76,400	2.7	$28,300
15	2031	Fog Seal	$53,000	2.7	$19,525
17	2033	Fog Seal	$55,500	2.7	$20,525
20	2036	Grind and Overlay	$641,550	2.7	$237,600
		Total Cost 20 year	**$1,059,550**		

As shown in the table above fog sealing is recommended at 2-year recurring intervals. Microsurfacing is recommended to occur year 6 and year 13 and Grind and overlay is proposed for year 20. The total estimated cost for the recommended surface treatments for year 2 through 20 is shown, inflated on a 2.5% basis per year for all future years beyond 2016.

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Conclusions

This memorandum provides preventative maintenance cost estimates to assist Caltrans and the County of San Luis Obispo with the planning level discussions on whether action should be taken to move in the direction of relinquishment of SR 227 between Los Ranchos Road and the San Luis Obispo city limits, located adjacent to the SLO Regional Airport.

Caltrans relinquishment would provide the County with jurisdictional control of the relinquished portions of the SR 227 corridor, allowing the County to pursue future improvements as they deem necessary. Removing this portion of the corridor from the State Highway System provides economic benefit to Caltrans as well, since it reduces future maintenance costs, capital improvement costs, and exposure to tort liability.

Relinquishment further provides an increase in the County's responsiveness to community interest in the administration, planning, construction, and operation of facilities, resulting in a cost savings to taxpayers by eliminating the need for State encroachment permits. However, the transfer of jurisdiction to the County will also transfer the future maintenance costs, capital improvement costs, and tort liability exposure to the County.

Preventative maintenance treatment applications for the proposed Relinquishment Corridor were evaluated based on standard industry recommendations as well as comparison with the County preventative maintenance activities outlined in the SLO County Pavement Management Program (PMP).

These recommendations include: fog seal treatment every 2 years, and microsurfacing treatments every 6 years, over a projected 20-year life-cycle, at which time pavement resurfacing with a gap-graded recycled hot-mix asphalt (RHMA) and rubberized asphalt similar to the current 2016 Caltrans improvement project is recommended.

The total estimated cost for the recommended surface treatments for year 2 through 20 is provided in the previous section of this memorandum, inflated on a 2.5% basis per year for all future years beyond 2016.

Caltrans and the County are at liberty to determine a relinquishment plan that is mutually beneficial to both parties. Alternatively, each party is at liberty to take no action. Prior to initiating relinquishment, Caltrans must first determine the appropriateness of the relinquishment and whether relinquishment makes sense from a transportation system perspective.

If both parties decide to initiate the relinquishment process, the steps outlined in the PDPM would be followed, and Caltrans would be responsible for facilitating the negotiation of the terms of the relinquishment with the County. Ultimately, the California Transportation Commission has final authority for the relinquishment, including approval of any costs to relinquish.

Jim Damkowitch
Jim.Damkowitch@kimley-horn.com

Kimley-Horn
555 Capitol Mall
Suite 300
Sacramento, CA 95814
916-858-5800