NOTICE OF MEETING OF THE CARSON CITY REGIONAL TRANSPORTATION COMMISSION (RTC)

Day: Wednesday
Date: July 8, 2020
Time: Begins immediately after the adjournment of the Carson Area Metropolitan Planning Organization meeting that begins at 4:30 p.m.
Location: Community Center, Sierra Room, 851 East William Street, Carson City, Nevada

AGENDA

NOTICE TO PUBLIC: The State of Nevada and Carson City are currently in a declared State of Emergency in response to the global pandemic caused by the coronavirus (COVID-19) infectious disease outbreak. In accordance with the Governor's Declaration of Emergency Directive 006, which has suspended the provisions of NRS 241.020 requiring the designation of a physical location for meetings of public bodies where members of the public are permitted to attend and participate, public meetings of Carson City will NOT have a physical location open to the public until such time this Directive is removed.

Members of the public who wish only to view the meeting but do NOT plan to make public comment may watch the livestream of the RTC meeting at:
https://www.carson.org/transparency/meeting-agendas-minutes-and-recordings

The public may provide public comment in advance of a meeting by written submission to the following email address: lmaloney@carson.org. For inclusion or reference in the minutes of the meeting, your public comment must include your full name and be submitted via email by not later than 3:00 p.m. the day before the meeting.

Members of the public who wish to provide live public comment may do so during the designated public comment periods, indicated on the agenda, via telephonic appearance by dialing the numbers listed below. Please do NOT join by phone if you do not wish to make public comment.
To join by telephone, you must dial the following number: +1-408-418-9388 (Meeting ID: 146 024 4596).

To videoconference, you must have access to an Internet connection and a computer equipped with a camera and microphone with which you can join a meeting at the following link:
https://carsoncity.webex.com/carsoncity/onstage/g.php?MTID=e8c0df0cae87d7938321c5fcc91a38cee.

AGENDA NOTES: The Carson City Regional Transportation Commission (RTC) is pleased to make reasonable accommodations for members of the public who are disabled and wish to attend the meeting via video conference or telephonic appearance, or who wish to make written submissions to RTC. If special arrangements are necessary, please notify RTC staff in writing at 3505 Butti Way, Carson City, Nevada, 89701, or LMaloney@carson.org, or call Lucia Maloney at (775) 887-2355 at least 24 hours in advance of the meeting.

For more information or for copies of the supporting material regarding any of the items listed on the agenda, please contact Lucia Maloney, Transportation Manager, at (775) 887-2355. Additionally, the agenda with all supporting material is posted under the RTC at www.carson.org/agendas, or is available upon request at 3505 Butti Way, Carson City, Nevada, 89701.

1. ROLL CALL AND DETERMINATION OF A QUORUM

2. AGENDA MANAGEMENT NOTICE: The Chair may take items on the agenda out of order; combine two or more agenda items for consideration; and/or remove an item from the agenda or delay discussion relating to an item on the agenda at any time.

3. DISCLOSURES: Any member of the RTC Board may inform the Chair of his or her intent to make a disclosure of a conflict of interest on any item appearing on the agenda or on any matter relating to the RTC's official business. Such disclosures must also be made at such time the specific agenda item is introduced.

4. PUBLIC COMMENT:** The public is invited at this time to comment on and discuss any topic that is relevant to, or within the authority of this public body. Comments are limited to three minutes per person per topic. If your item requires extended discussion, please request the Chair to calendar the matter for a future RTC meeting. No action may be taken upon a matter raised under this item of the agenda until the matter itself has been specifically included on an Agenda as an item upon which action may be taken.

5. APPROVAL OF MINUTES:

5-A For Possible Action – Discussion and possible approval of the May 13, 2020 draft minutes.

6. PUBLIC MEETING ITEM(S):

6-A For Information Only – Presentation and discussion of the 2019 Carson City Downtown Parking Analysis.

Staff Summary: Staff will present information on the 2019 Downtown Parking Analysis. LSC Transportation Consultants conducted weekday parking counts within downtown Carson City during the months of May 2019 and September 2019 to evaluate parking regulations. The evaluation will help ensure that public parking facilities are used to best manage parking demand and to support activities in downtown Carson City.

6-B For Possible Action – Discussion and possible action regarding a determination that Coons Construction LLC, is the lowest responsive and responsible bidder pursuant to NRS Chapter 338 and to award Contract No. 20300007, CDBG Airport Road ADA Improvement Project, to Coons Construction LLC, for a total not to exceed amount of $177,619.20 to be funded from the Community Development Block Grant (CDBG) fund, Capital Improvements account.

Staff Summary: This contract is for all labor, materials, tools and equipment necessary for the CDBG Airport Road ADA Improvements Project, which includes applying new concrete sidewalk construction and asphalt pavement patching between U.S. Highway 50 and Champion Street. The construction contract is for the Base Bid amount of $161,472, plus a 10% contingency amount of $16,147.20. The engineer's base bid estimate for construction was $180,000.

6-C For Information Only – Information and presentation on the Southwest Carson Circulation Study.

Staff Summary: Staff will present initial findings from the Southwest Carson Circulation Study. This study was conducted to understand long-term circulation and access needs throughout southwest Carson City and to understand how ongoing developments affect streets parallel and adjacent to South Carson Street.

6-D For Information Only – Presentation and discussion of the draft Carson City Safe Routes to School Master Plan.

Staff Summary: Carson City Public Works contracted with Headway Transportation and Alta Planning and Design to develop Carson City's Safe Routes to School Master Plan with input from the Carson City School District and the Carson City Sheriff's Office. The Safe Routes to School Master Plan focuses on encouraging walking & biking to school by improving the safety of students within a 1-mile radius of the six elementary schools and two middle schools in Carson City. The project team will provide a presentation on the draft Safe Routes to School Master Plan and solicit comment. The draft Safe Routes to School Master Plan will be presented to the Carson City School Board Members on July 14th, 2020, and the final Carson City Safe Routes to School Master Plan will be presented to the RTC for approval at the August 2020 Meeting.

6-E For Information Only – Presentation and discussion of short- and long-term Transportation Projects for the 2050 Regional Transportation Plan (RTP).

Staff Summary: Staff will present a list of transportation projects proposed for CAMPO's 30-year Regional Transportation Plan and solicit comments on included projects or the need for additional projects.

6-F For Information Only – Presentation and discussion of the recently re-designated School Zones within Carson City, and resulting updates to the Speed Limit Policy establishing guidelines for school zone signage posted within designated Carson City School Zones.

Staff Summary: Staff will present information related to the Speed Limit Policy and how that policy is being implemented.

7. INTERNAL COMMUNICATIONS AND ADMINISTRATIVE MATTERS - Non-Action Items:

7-A Transportation Manager's Report
7-B Street Operations Activity Report

8. BOARD COMMENTS: For Information Only – Status reports and comments from the members of the RTC Board.

9. The Next Meeting is Tentatively Scheduled – 4:30 p.m., Wednesday, August 12, 2020, at the Sierra Room - Community Center, 851 East William Street, immediately after the meeting of the Carson Area Metropolitan Planning Organization.

10. PUBLIC COMMENT:** The public is invited at this time to comment on any matter that is not specifically included on the agenda as an action item. No action may be taken on a matter raised under this item of the agenda. Comments are limited to three minutes per person per topic. If your item requires extended discussion, please request the Chair to calendar the matter for a future RTC meeting. No action may be taken upon a matter raised under this item of the agenda until the matter itself has been specifically included on an Agenda as an item upon which action may be taken.

11. ADJOURNMENT: For Possible Action

****PUBLIC COMMENT LIMITATIONS - Although the RTC often provides an opportunity for additional public comment during each specific item designated for possible action on the agenda, public comment will be temporarily limited to the beginning of the agenda before any action is taken and again at the end before adjournment. This policy will remain effective during the period of time the State of Nevada is under a State of Emergency as declared by the Governor due to the COVID-19 pandemic, and is intended to achieve the efficient conduct of meetings while facilitating public participation via videoconference and telephonic means.**

NOTICE TO PUBLIC: In accordance with the Governor's Emergency Declaration Directive 006 suspending state law provisions requiring the posting of public meeting agendas at physical locations, this agenda was posted electronically at the following Internet websites:

This notice has been posted at the following locations:

www.carson.org/agendas
http://notice.nv.gov

CARSON CITY REGIONAL TRANSPORTATION COMMISSION
Minutes of the June 10, 2020 Meeting
Page 1

A regular meeting of the Carson City Regional Transportation Commission (RTC) was scheduled to begin following adjournment of the Carson Area Metropolitan Planning Organization (CAMPO) meeting on Wednesday, June 10, 2020, in the Community Center Sierra Room, 851 East William Street, Carson City, Nevada.

PRESENT: Chairperson Brad Bonkowski
Vice Chairperson Mark Kimbrough
Commissioner Lori Bagwell
Commissioner Chas Macquarie (via WebEx)
Commissioner Greg Stedfield

STAFF: Dan Stucky, Public Works Deputy Director
Lucia Maloney, Transportation Manager
Dirk Goering, Sr. Transportation Planner
Chris Martinovich, Transportation/Traffic Engineer
Todd Reese, Deputy District Attorney
Tamar Warren, Senior Deputy Clerk

NOTE: A recording of these proceedings, the commission's agenda materials, and any written comments or documentation provided to the Clerk, during the meeting, are part of the public record. These materials are available for review, in the Clerk's Office, during regular business hours. All approved meeting minutes are available on carson.org/minutes.

1. CALL TO ORDER AND DETERMINATION OF A QUORUM

(5:25:15) – Chairperson Bonkowski called the meeting to order at 5:25 p.m. and noted that in addition to the public comments scheduled for agenda items 4 and 10, members of the public will also have the opportunity to comment on agenda item 6-A. Chairperson Bonkowski read into the record a Notice to the Public relating to meeting procedures during the COVID-19 pandemic, incorporated into the agenda. Roll was called, and a quorum was present.

2. AGENDA MANAGEMENT NOTICE

(5:27:00) – Ms. Maloney and the Commissioners indicated that they had no modifications to the agenda. Chairperson Bonkowski considered the agenda adopted as published.

3. DISCLOSURES

(5:27:21) – Chairperson Bonkowski entertained Commissioner disclosures; however, none were forthcoming.

4. PUBLIC COMMENT

(5:27:35) – Chairperson Bonkowski entertained public comments; however, none were forthcoming.

5. APPROVAL OF MINUTES

5-A FOR POSSIBLE ACTION – DISCUSSION AND POSSIBLE APPROVAL OF THE MAY 13, 2020 DRAFT MINUTES.

(5:28:06) – Chairperson Bonkowski introduced the item and entertained comments, changes, corrections, or a motion.

(5:28:19) – Vice Chair Kimbrough moved to approve the minutes of the May 13, 2020 RTC meeting. The motion was seconded by Commissioner Stedfield and carried 5-0-0.

6. PUBLIC MEETING ITEMS

6-A FOR INFORMATION ONLY - TO PROVIDE A STATUS UPDATE AND SOLICIT COMMENTS ON THE KINGS CANYON ROAD AND TRAILHEAD PROJECT. THIS IS A FEDERAL LANDS ACCESS PROGRAM (FLAP) GRANT PROJECT FOR TRAILHEAD, ROADWAY, AND STORM WATER IMPROVEMENTS BETWEEN THE KINGS CANYON TRAILHEAD AND JUST EAST OF THE CANYON DRIVE AND KINGS CANYON ROAD INTERSECTION.

(5:28:45) – Chairperson Bonkowski introduced the item. Mr. Goering reviewed the Staff Report which included the project background, grant and public input timelines. Both he and Mr. Martinovich provided a PowerPoint presentation, incorporated into the record, which included a project map, design elements, concerns, plans, and written public comments. They also responded to clarifying questions by the Commissioners.

(5:56:41) – Commissioner Macquarie believed that 30 parking spaces were not an increase; however, they were "better controlled and better managed." He also was in favor of adding the restrooms but was concerned that additional mitigation was needed for erosion control. Commissioner Macquarie believed that the new trail beginning at the location of the restrooms and eventually realigning with the current Waterfall Trail showed a steep connection "and it's in the wrong location…Federal Lands need to look at relocating that." He was in support of the bicycle lane and the striping but not of the reduction of the pavement width.

(6:03:56) – Vice Chair Kimbrough expressed concern that the written public comments contained "a lot of misinformation." He clarified that a half-mile trail would not be available as they would be longer, and that the restrooms would not smell. Vice Chair Kimbrough also provided a history of the trails and noted that he would provide information at the Open Space Advisory Committee.

(6:11:15) – Commissioner Bagwell explained that most of the public comments were about fire concerns and wished to see if those concerns could be alleviated. She also recommended looking into the safety recommendations such as a tow zone, if necessary.

(6:13:25) – Chairperson Bonkowski also believed that looking into a water tank "makes sense" because there are other areas that have them to mitigate fires. He also recommended signage such as ones for tow zones and trailer parking and increased park ranger patrol.

(6:16:15) – Mr. Martinovich explained that plans were underway to post no-parking and tow zone signs in addition to fencing and other ways to prevent vehicles from parking in certain areas. He also noted that the Open Space Department was working with the Forest Service to determine slope treatments and erosion control methods. Mr. Martinovich explained that consideration was being given to having "a one-way loop" and the possibility of gating the parking lot. Mr. Goering stated that the requested fire tank was not currently budgeted; however, he stated that Staff will work with the Fire Department.

(6:19:32) – Open Space Trails Coordinator Gregg Berggren explained that the trail would be on Forest Service land and that they would enter into a Management Agreement with the Forest Service to ensure the City's control in managing the parking lot. Mr. Goering believed that gating would improve the quality of life of the residents, because of the current nighttime activities. Vice Chair Kimbrough was opposed to towing vehicles based on past experience but was in favor of the signs. Chairperson Bonkowski entertained public comments.

(6:23:48) – Scott Kulla introduced himself as an area resident and noted the positive "brainstorming" that had taken place in the past several minutes and inquired about future public comment opportunities. Mr. Kulla had already submitted written public comment.

(6:27:59) – Juan Guzman introduced himself and provided information on trail connectivity. He recommended having enough parking spaces to support future trail connectivity plans. He was also in favor of creating separation between hikers, bicyclists, and equestrians by utilizing sidewalks and different surfaces. Mr. Guzman recommended widening the last mile of road because everyone is most tired on that stretch.

(6:34:10) – Vicki Preston introduced herself and noted that the 70 percent design shows more encroachment on her property that what was reflected on the 30 percent design. She also wished to see access to water in case of a fire and was in favor of speed mitigation. Ms. Preston praised the City employees she had worked with and was interested in having input as a resident of Kings Canyon.

(6:38:20) – Charles Clemmensen introduced himself and noted the narrow trail to the last part of the waterfall which he believed was a safety issue. He also believed that the water quality was compromised by the degraded soil getting into the creek and recommended cars and trailers "park on the side of the Forest Service Road." Mr. Clemmensen cited statistics that indicated drivers on striped center lanes were less likely to give bicyclists as much passing space, increasing collisions.

(6:46:18) – Chairperson Bonkowski entertained additional public comments and when none were forthcoming, he suggested that each Board member provide direction to Staff.

(6:46:35) – Commissioner Macquarie recommended having a water tank for fire mitigation and looking into a one-way loop. He was in favor of the thirty parking spaces and considered the restrooms a key

component of the project. Commissioners Stedfield and Macquarie also wished to meet with the residents to discuss design issues; however, Vice Chair Kimbrough remined the Commission that they were at the 70 percent design stage and did not wish to see the project not completed. Commissioner Bagwell recommended focusing on some of the valid points, such as parking on the side of the road, to come to a consensus with residents and wished to see the water tank. Chairperson Bonkowski thanked the residents for their participation and invited them to participate in future public meetings such as the upcoming Parks and Recreation Commission meeting. He also believed that a consensus might be difficult; however, he believed that a plan may be implemented once the design is completed. Ms. Maloney indicated that "now is the perfect time for public comment" and clarified that a public hearing had occurred at the 30 percent design phase. She encouraged residents to stay in touch with Staff and received confirmation from the Commission to keep the roadway width at 28 feet. No action was required for this item.

6-B FOR POSSIBLE ACTION – DISCUSSION AND POSSIBLE ACTION REGARDING COOPERATIVE AGREEMENT NO. PR232-20-063, BETWEEN THE CARSON CITY RTC AND THE NEVADA DEPARTMENT OF TRANSPORTATION (NDOT) FOR THE NORTHRIDGE DRIVE RECONSTRUCTION PROJECT FOR A TOTAL OF $1,041,748.00, TO AUTHORIZE THE TRANSPORTATION MANAGER TO EXECUTE THE AGREEMENT, AND TO AUTHORIZE THE RTC CHAIR TO EXECUTE FUTURE AMENDMENTS TO THIS AGREEMENT REGARDING TIME EXTENSIONS OR A CHANGE IN THE VALUE OF FUNDING UP TO 10% OF THE INITIAL FUNDING AMOUNT.

(6:56:25) – Chairperson Bonkowski introduced the item. Mr. Martinovich reviewed the agenda materials which are incorporated into the record. Chairperson Bonkowski entertained comments and when none were forthcoming, a motion.

(6:57:55) – Vice Chair Kimbrough moved to authorize the Transportation Manager to execute the agreement as presented, and to authorize the RTC Chair to execute future amendments to the agreement regarding time extensions and changes in funding up to 10% of the initial funding amount. The motion was seconded by Commissioner Bagwell and carried 5-0-0.

6-C FOR POSSIBLE ACTION – DISCUSSION AND POSSIBLE ACTION REGARDING THE INTERLOCAL COOPERATIVE AGREEMENT BETWEEN THE CARSON AREA METROPOLITAN PLANNING ORGANIZATION, RTC, AND THE CARSON CITY BOARD OF SUPERVISORS.

(6:58:28) – Chairperson Bonkowski introduced the item and referenced the discussion and approval of this item (6-D) that had taken place in the Carson Area Metropolitan Planning Organization (CAMPO) as follows:

From the CAMPO June 10, 2020 meeting minutes:

(5:00:42) – Chairperson Kimbrough introduced the item. Ms. Maloney presented the Staff Report and attachments. She also noted a recommended change by a Board member which was to incorporate the

"also other funds…" section of item 3 of the "Regional Transportation Commission Agrees" section (packet page 38) into item 2 of the "City Agrees" section (packet page 39) to clarify that "the City agrees to delegate that authority back to [the] RTC." Discussion ensued and Member Bagwell recommended adding "stormwater" to the aforementioned section to read: "including but not limited to water, sewer, and stormwater funds…" Mr. Reese also clarified for Member Macquarie that pandemics would be covered in item 9 of the "All Parties Agree" section (packet page 41) as "an act of God." Ms. Maloney recapped the above edits for the Board prior to a motion.

There were no additional comments for Ms. Maloney; therefore, Chairperson Bonkowski entertained a motion.

(6:59:27) – Commissioner Bagwell moved to approve the amendment as presented under the CAMPO motion which was *to incorporate the Transportation Manager's comments into a motion and for the District Attorney's Office to conform the language.* The motion was seconded by Commissioner Stedfield and carried 5-0-0.

6-D FOR POSSIBLE ACTION – DISCUSSION AND POSSIBLE ACTION REGARDING A DETERMINATION THAT INTERMOUNTAIN SLURRY SEAL, INC., IS THE LOWEST RESPONSIVE AND RESPONSIBLE BIDDER PURSUANT TO NRS CHAPTER 338 AND TO AWARD CONTRACT NO. 19300180, 2020 LONG LINE PROGRAM, TO INTERMOUNTAIN SLURRY SEAL, INC., FOR A TOTAL NOT TO EXCEED AMOUNT OF $211,411.20 TO BE FUNDED WITH STREET MAINTENANCE FUNDS.

(7:01:07) – Chairperson Bonkowski introduced the item. Mr. Martinovich presented the agenda materials, incorporated into the record, and recommended approval. Chairperson Bonkowski entertained comments and when none were forthcoming, a motion.

(7:02:16) – Commissioner Stedfield moved to award the contract as presented. The motion was seconded by Commissioner Bagwell and carried 5-0-0.

6-E FOR POSSIBLE ACTION – DISCUSSION AND POSSIBLE ACTION REGARDING ACCEPTANCE OF AVAILABLE FISCAL YEAR (FY) 2020 GRANT FUNDING FROM THE NEVADA AGING AND DISABILITY SERVICES DIVISION (ADSD) IN THE AMOUNT OF $16,350 FOR THE PERIOD JULY 1, 2019 TO JUNE 30, 2020, AND IN THE AMOUNT OF $96,750 FOR THE PERIOD JULY 1, 2020 TO JUNE 30, 2021, AND TO AUTHORIZE THE PUBLIC WORKS DIRECTOR TO EXECUTE THE REQUIRED AWARD MATERIALS.

(7:02:35) – Chairperson Bonkowski introduced the item. Ms. Maloney presented the Staff Report and accompanying documentation. There were no Commissioner comments. Chairperson Bonkowski entertained a motion.

(7:06:34) – Commissioner Bagwell moved to accept the grant funding as presented, and to authorize the Public Works Director to execute the required award materials. The motion was

seconded by Commissioner Stedfield. Supervisor Bonkowski reminded everyone to call (775) 841-RIDE for the senior bus passes. **Motion carried 5-0-0.**

7. INTERNAL COMMUNICATIONS AND ADMINISTRATIVE MATTERS - NON-ACTION ITEMS:

7-A TRANSPORTATION MANAGER'S REPORT

(7:07:19) – Ms. Maloney reminded the Commission of the Board of Supervisors' action to approve the five cent per gallon diesel tax effective August 1, 2020 and to sunset at the end of 2022. She also indicated that Staff was working "to wrap up our various professional services contracts budgeted under fiscal year 2020."

7-B STREET OPERATIONS ACTIVITY REPORT

(7:10:32) – Ms. Maloney reviewed the Street Operations Activity Report, incorporated into the record, and highlighted the shoulder work done as a result of a slowdown due to COVID-19.

7-C TRANSPORTATION PROJECTS STATUS REPORT

(7:11:33) – Mr. Martinovich presented the Transportation Projects Status Report, incorporated into the record, and responded to clarifying questions.

8. BOARD COMMENTS: FOR INFORMATION ONLY – STATUS REPORTS AND COMMENTS FROM THE MEMBERS OF THE RTC BOARD.

(7:17:03) – Chairperson Bonkowski entertained Board comments. Commissioners Macquarie and Stedfield thanked Staff for their efforts on the Kings Canyon project.

9. THE NEXT MEETING IS TENTATIVELY SCHEDULED – 4:30 P.M., WEDNESDAY, JULY 8, 2020, AT THE SIERRA ROOM - COMMUNITY CENTER, 851 EAST WILLIAM STREET, IMMEDIATELY AFTER THE MEETING OF THE CARSON AREA METROPOLITAN PLANNING ORGANIZATION.

(7:18:03) – Chairperson Bonkowski read the agenda item into the record and clarified that the RTC meeting will immediately follow the Carson Area Metropolitan Planning Organization meeting which starts at 4:30 p.m.

10. PUBLIC COMMENT

(7:18:18) – Chairperson Bonkowski entertained public comments. Mr. Kulla thanked the Board for hearing his public comments earlier and noted that a petition with over 150 signatures is being circulated. He also recommended having 25 parking spaces and clarified that they are not "demanding consensus" but would like to air their issues and reach a compromise. Mr. Kulla specifically addressed having tow

zones which he called a life or death matter, especially in case of a fire. Chairperson Bonkowski informed Mr. Kulla that the Commission had received copies of the previously mentioned petition.

(7:21:39) – Mr. Clemmensen thanked Staff for their cooperation, adding that he did not anticipate reaching full consensus. Chairperson Bonkowski reminded callers of the public comment process which allowed members of the public to voice their input; however, the Commission could not engage in a dialogue with members of the public.

11. ADJOURNMENT: FOR POSSIBLE ACTION

(7:23:37) – Chairperson Bonkowski adjourned the meeting at 7:23 p.m.

The Minutes of the June 10, 2020 Carson City Regional Transportation Commission meeting are so approved this 8th day of July, 2020.

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STAFF REPORT

Report To: The Carson City Regional Transportation Commission (RTC)

Meeting Date: May 13, 2020

Staff Contact: Lucia Maloney, Transportation Manager; Lee Plemel, Community Development Department Director

Agenda Title: For Information Only – Presentation and discussion of the 2019 Carson City Downtown Parking Analysis.

Staff Summary: Staff will present information on the 2019 Downtown Parking Analysis. LSC Transportation Consultants conducted weekday parking counts within downtown Carson City during the months of May 2019 and September 2019 to evaluate parking regulations. The evaluation will help ensure that public parking facilities are used to best manage parking demand and to support activities in downtown Carson City.

Agenda Action: Other/Presentation **Time Requested:** 15 minutes

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Proposed Motion
N/A

Background/Issues & Analysis
Carson City retained LSC Transportation Consultants to conduct weekday parking counts within downtown Carson City during the months of May 2019 (when the Legislature was in session) and September 2019 (when the Legislature was not in session) to evaluate parking regulations. The evaluation will help ensure that public parking facilities are used to best manage parking demand and to support activities in downtown Carson City.

LSC staff inventoried and conducted usage counts of all publically accessible parking spaces within the parking study area, defined by Nevada Street on the west, William Street on the north, Stewart Street on the east, and 5th Street on the south (excluding the area north of Robinson Street and east of Plaza Street, as well as south of Musser Street and east of Carson Street). This included on-street spaces as well as the spaces within seven off-street parking lots. The area has a total of 1,387 available parking spaces, with 564 (40.7 percent) within lots, and 823 (59.3 percent) on-street. Of the total, 71.4 percent have no restrictions, 22.8 percent are two-hour spaces, 2.5 percent are ADA spaces, and the remaining 3.3 percent are resident, loading, or special curb rental spaces. Additionally, turnover counts were conducted in high-use parking areas in September 2019, to aid in defining short-term customer parking versus long-term employee parking.

The study resulted in the following conclusions and recommendations:

- There is sufficient public parking in downtown Carson City, with a maximum observed utilization rate of 57 percent when the Legislature is in session and 51 percent at other times. The area from Robinson Street north has the lowest peak utilization of 34 percent in May during the legislative session, and 33 percent in September when not in session. The central area from Musser Street north to Robinson Street had utilization rates of 60 percent in May and 59 percent in September. The area south of Musser Street had the highest peak utilization rate of 76 percent in May, dropping to 45 percent in September.
- The parking areas near the State Capitol buildings have overall high parking utilization from approximately 10 AM to 5 P M during the Legislative session. At peak times, spaces remained available in the Nugget parking lots, one block from the Capitol buildings.
- Several of the off-street lots were never observed to be more than half full, indicating that that educational efforts such as a parking map could be beneficial in directing more motorists towards using Lots 3 and 4.
- The higher utilization rate of 2-hour spaces over regular spaces in north of Robinson Street indicates that it may be beneficial to designate 4 to 8 more spaces for 2-hour parking in this area.
- Lot 2 (bordered by Musser, Nevada, Proctor and Curry Streets) has low utilization of the existing 2-hour spaces and full utilization of the unrestricted spaces. It is recommended that the 16 spaces on the south side of the northern portion of the lot be made unrestricted rather than 2-hour parking. The City will need to coordinate with the Adams Foundation to see whether an agreement can be made.

Applicable Statute, Code, Policy, Rule or Regulation
N/A

Financial Information
Is there a fiscal impact? ☐ Yes ☒ No

If yes, account name/number: N/A

Is it currently budgeted? ☐ Yes ☐ No

Explanation of Fiscal Impact:

Alternatives
N/A

Supporting Material
-Exhibit-1: 2019 Carson City Downtown Parking Analysis
-Exhibit-2: Presentation to RTC on the 2019 Carson City Downtown Parking Analysis



2019 Carson City Downtown Parking Analysis

Final Report

Prepared for the

Carson City Community Development Department

CARSON CITY
COMMUNITY DEVELOPMENT

TSC
TRANSPORTATION CONSULTANTS, INC.

2019 Carson City Downtown Parking Analysis

Final Report

Prepared for the

Carson City Community Development Department

January 27, 2020

Prepared by

LSC Transportation Consultants, Inc.
PO Box 5875
2690 Lake Forest Road, Suite C
Tahoe City, California, 96145
(530) 583-4053

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Executive Summary

2019 Carson City Downtown Parking Analysis

Prepared for the Carson City Community Development Department
Prepared by LSC Transportation Consultants, Inc.

Carson City retained LSC Transportation Consultants to conduct weekday parking counts within downtown Carson City during the months of May 2019 (when the Legislature was in session) and September 2019 (when the Legislature was not in session) and assess changes in parking regulations. The goal of this work was to assess parking conditions and ensure that public parking facilities are used to best manage parking availability and to support activities in downtown Carson City.

PARKING INVENTORY

LSC staff conducted an inventory of all publicly accessible parking spaces within the parking count area, defined by Nevada Street on the west, William Street on north, Stewart Street on the east and 5th Street on the south (excluding the area north of Robinson Street and east of Plaza Street, as well as south of Musser Street and east of Carson Street). This included on-street spaces as well as the spaces within seven off-street parking lots. The area has a total of 1,387 available parking spaces (excluding bus stops), of which 564 (40.7 percent) are within lots and 823 (59.3 percent) are on-street. Of the total, 71.4 percent have no restrictions, 22.8 percent are two-hour spaces, 2.5 percent are ADA spaces and the remaining 3.3 percent are resident, loading, motorcycle or special.

MAY PARKING COUNTS

The parking counts conducted on Wednesday May 29th, 2019 indicate the following:

- A maximum of 784 parked vehicles were observed in any one hour, equal to 56 percent utilization. This was observed in the 11 AM hour. The maximum on-street parked vehicles were observed to be 467, in the 11 AM hour, equal to 55 percent utilization, while the maximum lot utilization was 317, or 59 percent utilization, that occurred in the 11 AM and 1 PM hours. Overall parking demand stayed relatively high (above 700 total vehicles) through the 4 PM hour but dropped substantially in the 5 PM hour.

- While overall utilization does not exceed 57 percent, there are specific "hot spot" areas with high utilization. In particular, parking areas on S. Carson Street and S. Curry Street between 2nd and 5th Streets are largely to completely utilized for much of the day. The area around Curry, Spear, Carson and Musser Streets also had high utilization, particularly in the afternoon.

- The area south of Musser Street had the highest peak utilization (76 percent) followed by 60 percent between Musser Street and Robinson Street and 34 percent north Robinson Street.

- Total study area peak utilization in the regular spaces and the 2-hour spaces was very similar (58.6 percent versus 60.2 percent).

SEPTEMBER PARKING COUNT ANALYSIS

The parking counts conducted Tuesday, September 24th and Thursday September 26th, 2019 indicate the following:

- The parking peak was observed during the 11 AM hour, when 722 parked vehicles were observed (52 percent utilization). This was only 62 less vehicles than in May. The maximum on-street parked vehicles were observed to be 441, in the 12 PM hour, equal to 54 percent utilization. The maximum lot utilization was 284, or 50 percent utilization, during the 11 AM. Overall parking demand stayed between 500 and 700 total vehicles throughout the whole day.

- There are specific "hot spot" areas with high utilization. In particular, the area around Musser between Plaza and Stewart Street also had high utilization, particularly in the afternoon. These occupancy rates are also shown in Figure 4.

- The area between Musser Street and Robinson Street had the highest peak utilization (58 percent), whereas utilization to the south was 45 percent followed by 37 percent to the north.

- Peak utilization in the two-hour spaces were greater than the regular spaces (56.3 percent and 50.8 percent respectively).

PARKING TURNOVER COUNTS

Parking turnover counts were conducted in September to aid in defining short-term (such as customer) parking versus long-term (such as employee) parking. The last four digits of vehicle license plates were recorded every half-hour over an 8-hour period in two busy areas:

- In the **south area** around 3rd Street, Carson Street, 5th Street and Curry Street, the overall average parking duration was 1.6 hours. The spaces designated for 2-hour parking (along Carson Street and the block of 4th Street from Carson to Curry) had an average duration of 1.2 hours, while the undesignated spaces had a duration of 2.1 hours. 14 percent of all vehicles observed in this area parked for 3 or more hours, indicating a relatively low use by employees. These longer-term parkers were spread around the area, with no real concentration in any one block. Of the 78 total vehicles parking in the 2-hour spaces, 9 (or 12 percent) exceeded the 2-hour time limit.

- In the **central area** around Telegraph Street, Curry Street, Musser Street and Nevada Street, average parking duration within the Central Area was observed to be 1.6 hours. Vehicles in the undesignated spaces had an average duration of 4.9 hours, those with a 2-hour time limit had an average duration of 1.4 hours, while the 20-minute spaces had an average of 0.6 hours. The undesignated spaces had 64 percent of vehicles staying longer than 3 hours. Of the total of 9 vehicles parked for these longer stays, 6 of them were parked along Musser Street between Plaza Street and Fall Street. The 20-minute designation was seen to be effective in providing convenient space for short-term stops.

CONCLUSIONS AND RECOMMENDATIONS

- There is sufficient public parking available in downtown Carson City, with a maximum observed utilization rate of 57 percent when the Legislature is in session and 51 percent at other times of

year. The area from Robinson Street north has the lowest peak utilization of 34 percent in the May counts and 33 percent in the September counts. The central area from Musser Street north to Robinson Street had utilization rates of 60 percent in May and 59 percent in September. The area south of Musser Street had the highest peak utilization rate of 76 percent in May, dropping to 45 percent in September.

- Not surprisingly, the parking areas convenient to the State Capitol buildings have overall high parking utilization at peak times (from roughly 10 AM to 5 PM) during the Legislative session. Even in the busiest times, however, there are many spaces available in the Nugget lots one block from the Capitol buildings.

- Several of the off-street lots were never observed to be more than half full, indicating that that educational efforts such as a parking map could be beneficial in directing more motorists towards using Lots 3 and 4.

- The higher utilization rate of 2-hour spaces over regular spaces in north of Robinson Street (63 percent in May versus 33 percent peak utilization in the September) indicates that it may be worthwhile to designate 4 to 8 more spaces for 2-hour parking in this area.

- Lot 2 (on the block bordered by Musser, Nevada, Proctor and Curry Streets) has low utilization of the existing 2-hour spaces and full utilization of the unrestricted spaces. It is recommended that the 16 spaces on the south side of the northern portion of the lot be made unrestricted rather than 2-hour parking. The City will need to coordinate with the Adams Foundation to see whether an agreement can be made.

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Chapter 1
Introduction and Methodology

Public parking is a crucial factor in the success and functionality of a city's downtown district. Parking supply needs to be sufficient to provide convenient access and avoid the frustration and traffic congestion generated by long searches for available parking. This supply needs to be managed to ensure that various types of motorists (such as employees, customers and delivery drivers) all have adequate parking availability. At the same time, excessive parking can be costly to provide and can reduce the attractiveness and sense of vibrancy of a downtown area. The importance of this issue is increased in Carson City due to the re-invigoration of the downtown district over recent years as well as the impact of the Nevada State Legislature.

To assess current parking conditions, Carson City retained LSC Transportation Consultants to conduct parking counts within downtown Carson City during the months of May 2019 (when the Legislature was in session) and September 2019 (when the Legislature was not in session). The following chapters describe the existing parking inventory studied, count methodology and results for both months. The final chapter provides our findings and recommendations.

PARKING INVENTORY

LSC staff conducted an inventory of all publicly accessible parking spaces within the parking count area, including on-street spaces as well as the spaces within seven off-street parking lots. This area is shown in Figure 1. Note that spaces were counted on both sides of the streets shown within the boundary line, while spaces were not counted for streets outside of the boundary line. For instances, spaces were counted on both sides of Nevada Street and Fifth Street, but not on either side of Stewart Street or William Street.

Table 1 presents the resulting inventory of parking spaces, by street, block and lot. Spaces were inventoried for "regular" spaces (no restrictions), those with 2-hour or 20-minute parking limitations, those restricted to ADA (disabled) users, those restricted to residents, loading-only spaces, and a few spaces with other restrictions. While the large majority of spaces in the count area are individually marked, there are several on-street areas without marked parallel spaces. In these unmarked areas, the capacity was estimated by assuming 1 space per 25 feet of curb length.

As shown, the area as a whole has a total of 1,387 available parking spaces (excluding bus stops). Of these, 564 (40.7 percent) are within lots and 823 (59.3 percent) are on-street. Of the total, 71.4 percent have no restrictions, 22.8 percent are 2-hour spaces, 2.5 percent are ADA spaces and the remaining 3.3 percent are resident, loading, motorcycle or special.

COUNT METHODOLOGY

Parking counts were conducted in downtown Carson City on May 29th (when the Legislature was in session) and September 24th and 26th (when the Legislature was not in session). On all count days, there were no weather conditions or construction projects that impacted parking. All vehicles parked on the roadways and designated parking lots within the parking study area shown in Figure 1 were included in this study. Counts were performed by LSC staff once an hour starting at 8:00 AM with the last lap

starting at 5:00 PM. Two LSC staff members traveled the count route in one car; one person drove while the second recorded the data on paper count forms that were prepared prior to the counts.

Figure 1: Parking Study Area

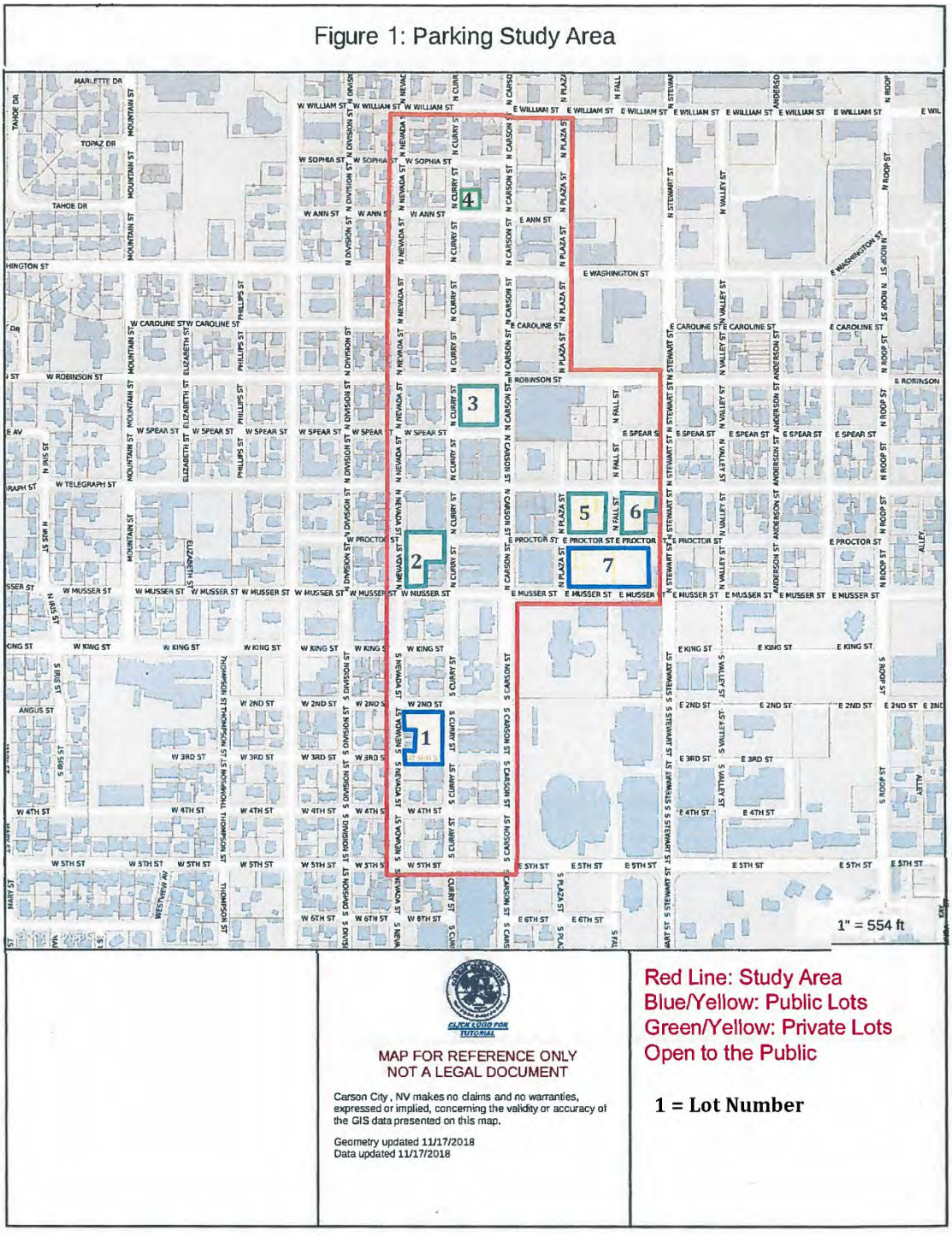

TABLE 1: Downtown Carson City Parking Inventory (1 of 3)

	Street	Between		Inventory								
				Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	*Total (1)*
North/South Streets	Nevada	5th	4th	10								*10*
		4th	3rd	9								*9*
		3rd	2nd	8								*8*
		2nd	King	8								*8*
		King	Musser	4	7		1					*12*
		Musser	Proctor	12								*12*
		Proctor	Telegraph	12								*12*
		Telegraph	Spear	11								*11*
		Spear	Robinson	6			2					*8*
		Robinson[1]	Caroline	7			1				1	*9*
		Caroline	Washington	8								*8*
		Washington	Ann	11								*11*
		Ann	Sophia	13								*13*
		Sophia	William	13								*13*
		Total		**132**	**7**		**4**				**1**	***144***
	Curry	5th	4th	9								*9*
		4th	3rd	9		1						*10*
		3rd	2nd	3	2			3				*8*
		2nd	King		11	1						*12*
		King	Musser		7							*7*
		Musser	Proctor		15			1				*16*
		Proctor	Telegraph		16							*16*
		Telegraph	Spear		15							*15*
		Spear	Robinson		15							*15*
		Robinson	Washington	17				1	1			*18*
		Washington	Ann	7								*7*
		Ann	Sophia	11	3							*14*
		Sophia	William	8				1				*9*
		Total		**64**	**84**	**2**		**6**	**1**			***156***
	Carson	5th	4th		2							*2*
		4th	3rd		2							*2*
		3rd	2nd		5							*5*
		Musser	Proctor		3				1			*3*
		Proctor[2]	Telegraph		3						3	*6*
		Telegraph	Spear		5							*5*
		Spear	Robinson		6							*6*
		Robinson	Washington		2							*2*
		Washington	Ann		2							*2*
		Total			**30**				**1**		**3**	***33***
	Plaza	Musser	Proctor	9								*9*
		Proctor	Telegraph		16			1				*17*
		Telegraph	Spear[5]	12							2	*14*
		Robinson	Caroline		5				2			*5*
		Caroline	Washington		4				2			*4*
		Washington	Ann	13								*13*
		Ann	Sophia	11								*11*
		Sophia	William	5								*5*
		Total		**50**	**25**			**1**	**4**		**2**	***78***
	Fall	Musser	Proctor	6								*6*
		Proctor	Telegraph	12								*12*
		Telegraph	Spear	8								*8*
		Spear	Robinson	5								*5*
		Total		**31**								***31***

Note 1: Bus stops are not included in the total inventory count.

TABLE 1: Downtown Carson City Parking Inventory (2 of 3)

	Street	Between		Inventory								
				Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	*Total (1)*
East/West Streets	5th	Nevada	Curry	13								*13*
	4th	Nevada	Curry	10								*10*
		Curry	Carson		17					1		*18*
		Total		**10**	**17**					**1**		***28***
	2nd	Nevada	Curry	10								*10*
		Curry	Carson		11	1						*12*
		Total		**10**	**11**	**1**						***22***
	King	Nevada	Curry	20			1					*21*
	Musser	Nevada	Curry		10							*10*
		Curry[3]	Carson	2							2	*4*
		Plaza	Fall	8		2		2				*12*
		Fall	Stewart	6								*6*
		Total		**16**	**10**	**2**		**2**			**2**	***32***
	Proctor	Curry	Carson		16	2						*18*
		Carson	Plaza		14	2						*16*
		Plaza	Fall	10								*10*
		Fall	Stewart	8								*8*
		Total		**18**	**30**	**4**						***52***
	Telegraph	Nevada	Curry	7		1		2				*10*
		Curry	Carson		17	1						*18*
		Carson	Plaza		14			1				*15*
		Plaza	Fall	5					1			*5*
		Fall	Stewart	11								*11*
		Total		**23**	**31**	**2**		**3**	**1**			***59***
	Spear	Nevada	Curry	14								*14*
		Curry	Carson		18	2						*20*
		Fall	Stewart	12								*12*
		Total		**26**	**18**	**2**						***46***
	Robinson	Nevada	Curry	9								*9*
		Curry	Carson	5								*5*
		Plaza[4]	Fall						1		2	*2*
		Total		**14**					**1**		**2**	**16**
	Caroline	Carson	Plaza	6								*6*
	Washingto	Nevada	Curry	6				2				*8*
		Carson	Plaza	7								*7*
		Total		**13**				**2**				***15***
	Ann	Nevada	Curry	11								*11*
		Curry	Carson	17								*17*
		Carson	Plaza	13		2		1	1			*16*
		Total		**41**		**2**		**1**	**1**			***44***
	Sophia	Nevada	Curry	10								*10*
		Curry	Carson	9								*9*
		Carson	Plaza	8								*8*
		Total		**27**								***27***

Note 1: Bus stops are not included in the total inventory count.

TABLE 1: Downtown Carson City Parking Inventory (3 of 3)

			Inventory								
	Lot		Regular	2hr	ADA	Resident	Loading	Bus	Motorcycle	Special	Total(1)
LOTS	1 Nevada/2nd/Curry/3rd		85		2	6					93
	2 Nevada/Musser/Curry[6]		26	53	6				2	6	93
	3 Nugget - Curry/Robinson/Carson/Spear		66								66
	4 NE Corner Ann/Curry		15		1						16
	5 Nugget - Plaza/Telegraph/Fall/Proctor		88								88
	6 Nugget - Hall/Telegraph/Steward/Proctor		57								57
	7 Plaza/Proctor/Stewart/Musser	A	16		1						17
		B	69		5						74
		C	55		5						60
		Subtotal	*140*		*11*						*151*
	Total		477	53	20	6			2	6	564

TOTALS	NS Streets	277	146	2	4	7	6	0	6	442	31.9%
	EW Street	237	117	13	1	8	3	1	4	381	27.5%
	Lots	477	53	20	6	0	0	2	6	564	40.7%
	Grand Total	**991**	**316**	**35**	**11**	**15**	**9**	**3**	**16**	**1,387**	**100%**
		71.4%	22.8%	2.5%	0.8%	1.1%	--	0.2%	1.2%	100.0%	

Special

#	Type
1	Client
2	20 minute
3	Secretary of State
4	Cab Company
5	Reserved
6	Lumos

Note 1: Bus stops are not included in the total inventory count.

Parked vehicles were recorded by the street and the block which they resided. The type of parking space (disabled, 2-hour limit, etc) which the vehicle was parked in was also recorded independently. On the day of the parking counts no construction was observed to be occurring on any of the roadway or parking lots within the study area, and the weather was fair. This data was entered into a spreadsheets for analysis.

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Chapter 2

May Parking Count Analysis

This chapter documents the parking counts conducted on Wednesday, May 29th, 2019. This date was selected as a typical weekday while the State Legislature was in session.

PARKING COUNT RESULTS

Table 2 presents the total vehicles observed in each individual block and lot for each hour. The right hand portion of this table also shows the utilization – the percent of total legal spaces utilized. Color shading in the utilization data reflects the relative value, with higher values shown in orange and lower values shown in green. Note that some counts indicate more than 100 percent utilization, reflecting either illegal parking (such as partially blocking a drive aisle) or more cars squeezing into an unmarked area than estimated in the inventory.

A review of Table 2 indicates the following:

- A maximum of 784 parked vehicles were observed in any one hour, equal to 56 percent utilization. This was observed in the 11 AM hour.

- The maximum on-street parked vehicles were observed to be 467, in the 11 AM hour, equal to 55 percent utilization.

- The maximum lot utilization was 317, or 59 percent utilization, that occurred in the 11 AM and 1 PM hours.

- While overall utilization does not exceed 57 percent, there are specific "hot spot" areas with high utilization. In particular, S. Carson Street and S. Curry Street between 2nd and 5th Streets are largely to completely utilized for much of the day. The area around Curry, Spear, Carson and Musser also had high utilization, particularly in the afternoon. These peaks in utilization are also shown in Figure 2.

- The overall parking counts by hour are shown in Figure 3, which indicates the 11 AM peak as well as the fact that overall parking demand stayed relatively high (above 700 total vehicles) through the 4 PM hour but dropped substantially in the 5 PM hour.

To gain additional understanding of parking patterns, the overall data was also summarized into three sub-areas:

- North – From Robinson Street (inclusive of both sides) north.

- Central – From Musser Street (inclusive of both sides) north to Robinson Street.

- South – South of Musser Street.

TABLE 2: May Parking Count and Utilization Summary (1 of 3)

North/South Streets				Inventory	Vehicle Count												Percent Utilization												Maximum
					8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Maximum		8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Maximum	
Nevada	5th	4th		10	1	6	6	7	8	8	5	6	6	6	8		10%	60%	60%	70%	80%	80%	50%	60%	60%	60%	80%	
	4th	3rd		9	0	1	2	4	5	8	4	5	4	5	8		0%	11%	22%	44%	56%	89%	44%	56%	44%	56%	89%	
	3rd	2nd		8	1	0	1	0	2	5	2	1	1	0	5		13%	0%	13%	0%	25%	63%	25%	13%	13%	0%	63%	
	2nd	King		8	1	1	3	4	5	6	7	6	7	5	7		13%	13%	38%	50%	63%	75%	88%	75%	88%	63%	88%	
	King	Musser		11	1	2	4	4	2	2	4	3	2	2	4		9%	18%	36%	36%	18%	18%	36%	27%	18%	18%	36%	
	Musser	Proctor		12	10	9	11	13	12	12	12	12	10	7	13		83%	75%	92%	108%	100%	100%	100%	100%	83%	58%	108%	
	Proctor	Telegraph		12	12	10	10	11	10	10	10	8	9	8	12		100%	83%	83%	92%	83%	83%	83%	67%	75%	67%	100%	
	Telegraph	Spear		11	4	5	5	6	5	5	6	4	4	0	6		36%	45%	45%	55%	63%	45%	55%	36%	36%	0%	55%	
	Spear	Robinson		10	2	2	4	2	2	3	2	2	4	5	5		20%	20%	40%	20%	20%	30%	20%	20%	40%	50%	50%	
	Robinson	Caroline		9	3	3	4	3	1	1	0	0	1	0	4		33%	33%	44%	33%	11%	11%	0%	0%	11%	0%	44%	
	Caroline	Washington		8	1	1	1	3	1	1	2	2	1	1	3		13%	13%	13%	38%	13%	13%	25%	25%	13%	13%	38%	
	Washington	Ann		11	2	3	2	2	0	1	3	3	1	1	3		18%	27%	18%	18%	0%	9%	27%	27%	9%	9%	27%	
	Ann	Sophia		13	1	2	2	3	2	1	4	4	5	4	5		8%	15%	15%	23%	15%	8%	31%	31%	38%	31%	38%	
	Sophia	William		14	0	0	0	0	0	0	1	1	2	3	3		0%	0%	0%	0%	0%	0%	7%	7%	14%	21%	21%	
Curry	5th	4th		9	3	7	9	9	4	8	8	9	9	9	9		33%	78%	100%	100%	44%	89%	89%	100%	100%	100%	100%	
	4th	3rd		10	10	7	7	9	10	10	10	9	10	11	11		100%	70%	70%	90%	100%	100%	100%	90%	100%	110%	110%	
	3rd	2nd		9	1	3	5	5	7	8	6	6	6	6	8		11%	33%	56%	56%	78%	89%	67%	67%	67%	67%	89%	
	2nd	King		14	5	1	7	10	8	8	9	12	12	11	12		36%	7%	50%	71%	57%	57%	64%	86%	86%	79%	86%	
	King	Musser		5	0	2	4	2	3	3	4	3	3	2	4		0%	40%	80%	40%	60%	60%	80%	60%	60%	40%	80%	
	Musser	Proctor		16	4	3	6	11	14	15	12	15	18	10	18		25%	19%	38%	69%	88%	94%	75%	94%	113%	63%	113%	
	Proctor	Telegraph		16	2	10	10	9	15	12	11	9	13	12	15		13%	63%	63%	56%	94%	75%	69%	56%	81%	75%	94%	
	Telegraph	Spear		15	1	2	2	3	8	11	10	9	13	14	14		7%	13%	13%	20%	53%	73%	67%	60%	87%	93%	93%	
	Spear	Robinson		14	2	4	6	5	7	4	11	9	7	5	11		13%	27%	40%	33%	47%	27%	73%	60%	47%	33%	73%	
	Robinson	Washington		18	13	14	17	16	14	16	14	13	12	10	17		72%	78%	94%	89%	78%	89%	78%	72%	67%	56%	94%	
	Washington	Ann		9	3	4	4	5	5	4	4	4	5	3	5		33%	44%	44%	56%	56%	44%	44%	44%	56%	33%	56%	
	Ann	Sophia		14	0	1	2	4	2	4	4	2	3	3	4		0%	7%	14%	29%	14%	29%	29%	14%	21%	21%	29%	
	Sophia	William		8	1	4	4	3	1	4	2	1	2	3	4		13%	50%	50%	38%	13%	50%	25%	13%	25%	38%	50%	
Carson	5th	4th		2	1	3	3	0	2	2	2	2	1	2	3		50%	150%	150%	0%	100%	100%	100%	100%	50%	100%	150%	
	4th	3rd		3	0	3	2	2	3	2	3	2	2	2	3		0%	100%	67%	67%	100%	67%	100%	67%	67%	67%	100%	
	3rd	2nd		6	3	6	5	5	7	7	6	5	5	7	7		50%	100%	83%	83%	117%	117%	100%	83%	83%	117%	117%	
	Musser	Proctor		2	0	0	1	2	1	1	0	2	1	1	2		0%	0%	50%	100%	50%	50%	0%	100%	50%	50%	100%	
	Proctor	Telegraph		6	1	1	1	4	2	2	1	2	2	5	5		17%	17%	17%	67%	33%	33%	17%	33%	33%	83%	83%	
	Telegraph	Spear		6	2	1	2	1	1	2	2	4	3	3	4		33%	17%	33%	17%	17%	33%	33%	67%	50%	50%	67%	
	Spear	Robinson		6	2	0	2	1	0	1	2	3	4	3	4		33%	0%	33%	17%	0%	17%	33%	50%	67%	50%	67%	
	Robinson	Washington		3	0	1	0	1	0	1	1	0	0	0	1		0%	33%	0%	33%	0%	33%	33%	0%	0%	0%	33%	
	Washington	Ann		2	0	0	0	1	0	0	0	0	1	0	1		0%	0%	0%	50%	0%	0%	0%	0%	50%	0%	50%	

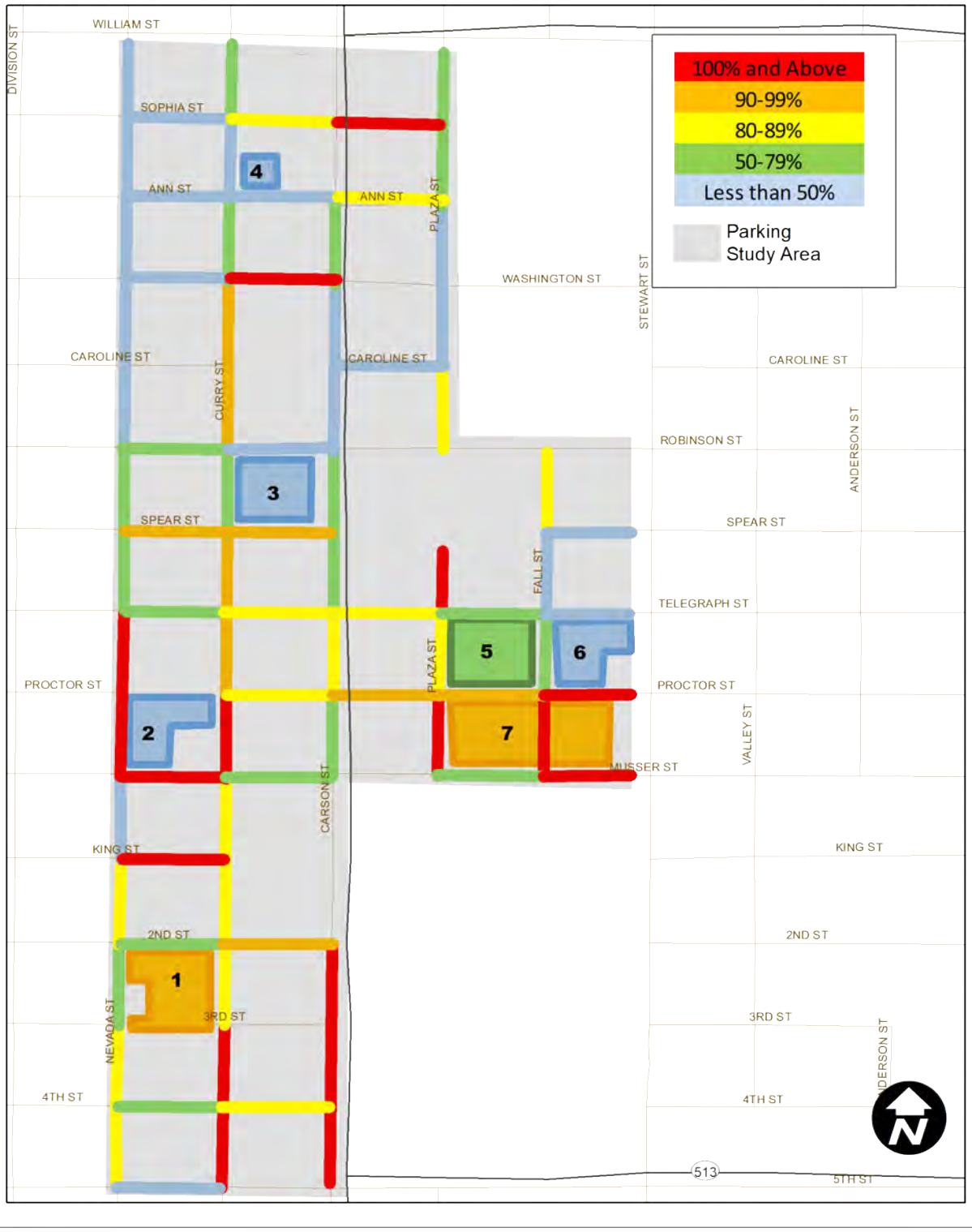
TABLE 2: May Parking Count and Utilization Summary (2 of 3)

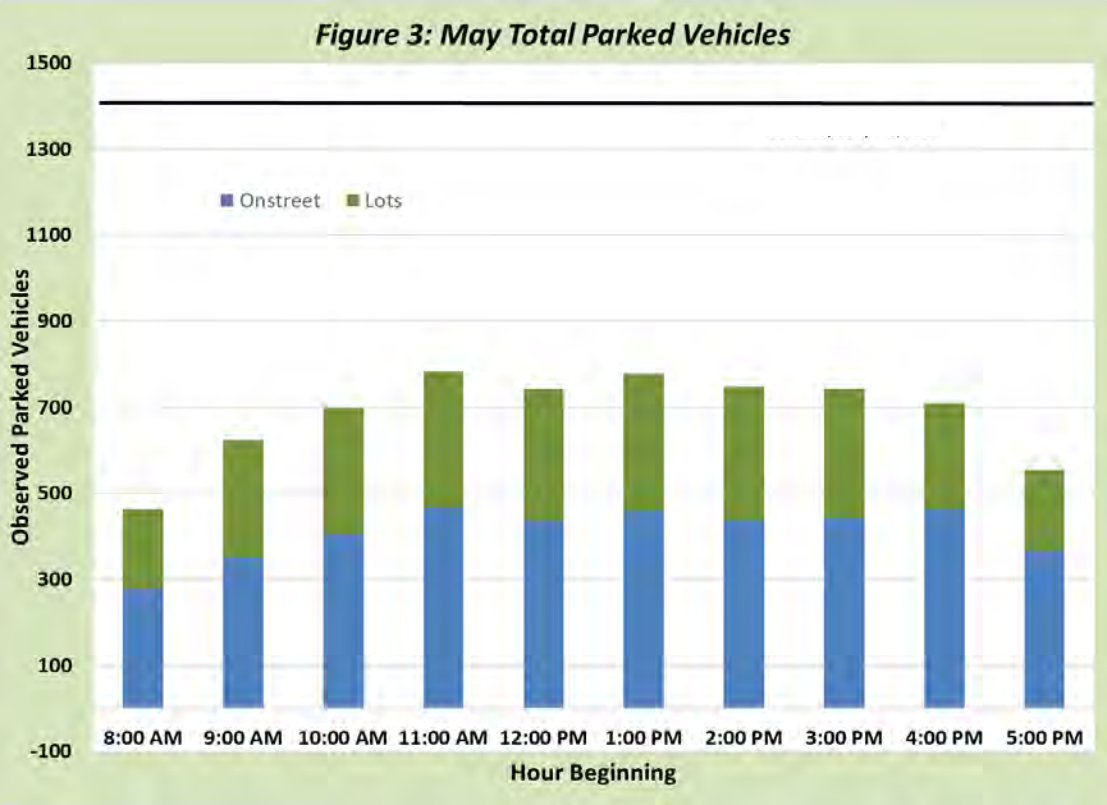
				Vehicle Count										Percent Utilization									
			Inventory	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Maximum	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Maximum
North/South Sts	Plaza	Musser	9	8	9	6	8	7	9	9	9	7	1	9	89%	100%	67%	89%	78%	100%	100%	100%	78%	11%	100%
		Proctor	16	2	9	10	10	14	7	5	6	7	14	14	13%	56%	63%	63%	88%	44%	31%	38%	44%	88%	88%
		Telegraph	12	10	11	10	11	11	13	13	11	12	5	13	83%	92%	83%	92%	92%	108%	108%	92%	100%	42%	108%
		Robinson	4	1	1	2	1	1	1	3	5	2	5	5	25%	25%	50%	25%	25%	25%	75%	125%	50%	125%	125%
		Caroline	3	0	0	0	0	1	0	0	0	0	1	1	0%	0%	0%	0%	33%	0%	0%	0%	0%	33%	33%
		Washington	13	2	5	5	5	6	5	4	3	3	2	6	15%	38%	38%	38%	46%	38%	31%	23%	23%	15%	46%
		Ann	13	7	8	8	10	9	5	5	6	7	2	10	54%	62%	62%	77%	69%	38%	38%	46%	54%	15%	77%
		Sophia	13	2	2	2	1	1	2	1	1	1	1	2	67%	67%	67%	33%	33%	67%	33%	33%	33%	33%	67%
	Fall	Musser	6	6	6	6	6	5	4	6	6	5	0	6	100%	100%	100%	100%	83%	67%	100%	100%	83%	0%	100%
		Proctor	14	6	11	11	10	10	8	7	6	6	6	11	43%	79%	79%	71%	71%	57%	50%	43%	43%	43%	79%
		Telegraph	8	1	1	1	1	1	1	1	1	1	0	1	13%	13%	13%	13%	13%	13%	13%	13%	13%	0%	13%
		Spear	5	1	2	2	2	1	1	4	2	2	2	4	20%	40%	40%	40%	20%	20%	80%	40%	40%	40%	80%
East/West Streets	5th	Nevada	15	0	0	0	0	0	0	0	0	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	4th	Nevada	14	2	7	6	9	11	10	9	10	11	10	11	14%	50%	43%	64%	79%	71%	64%	71%	79%	71%	79%
		Curry	18	6	10	8	13	15	12	11	12	14	13	15	33%	56%	44%	72%	83%	67%	61%	67%	78%	72%	83%
	2nd	Nevada	15	5	7	9	10	10	8	6	8	8	8	10	33%	47%	60%	67%	67%	53%	40%	53%	53%	53%	67%
		Curry	12	1	4	5	10	10	11	10	9	11	7	11	8%	33%	42%	83%	83%	92%	83%	75%	92%	58%	92%
	King	Nevada	21	18	18	20	20	15	16	20	21	18	12	21	86%	86%	95%	95%	71%	76%	95%	100%	86%	57%	100%
	Musser	Nevada	11	7	7	7	11	4	8	9	10	8	5	11	64%	64%	64%	100%	36%	73%	82%	91%	73%	45%	100%
		Curry	4	1	2	1	3	0	1	1	1	0	1	3	25%	50%	25%	75%	0%	25%	25%	25%	0%	25%	75%
		Plaza	12	9	9	9	9	8	8	9	9	7	2	9	75%	75%	75%	75%	67%	67%	75%	75%	58%	17%	75%
		Fall	6	6	6	6	5	5	6	6	5	4	1	6	100%	100%	100%	83%	83%	100%	100%	83%	67%	17%	100%
	Proctor	Curry	18	1	4	9	7	4	12	13	12	14	15	15	6%	22%	50%	39%	22%	67%	72%	67%	78%	83%	83%
		Carson	16	3	1	10	15	13	6	6	3	7	14	15	19%	6%	63%	94%	81%	38%	38%	19%	44%	88%	94%
		Plaza	10	9	9	7	9	6	8	0	8	7	3	9	90%	90%	70%	90%	60%	80%	0%	80%	70%	30%	90%
		Fall	8	6	8	8	8	6	6	7	7	7	3	8	75%	100%	100%	100%	75%	75%	88%	88%	88%	38%	100%
	Telegraph	Nevada	9	7	6	6	7	5	4	4	4	4	3	7	78%	67%	67%	78%	56%	44%	44%	44%	44%	33%	78%
		Curry	19	7	12	12	14	14	16	15	16	11	13	16	37%	63%	63%	74%	74%	84%	79%	84%	58%	68%	84%
		Carson	15	4	1	2	12	10	11	7	11	10	11	12	27%	7%	13%	80%	67%	73%	47%	73%	67%	73%	80%
		Plaza	5	1	1	3	4	3	3	2	2	2	1	4	20%	20%	60%	80%	80%	60%	40%	40%	40%	20%	80%
		Fall	11	0	0	0	0	3	1	1	1	0	0	3	0%	0%	0%	0%	27%	9%	9%	9%	0%	0%	27%

TABLE 2: May Parking Count and Utilization Summary (3 of 3)

				Vehicle Count										Percent Utilization										
			Inventory	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Maximum	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Maximum
East/West Streets	Spear	Nevada	15	10	9	13	14	14	14	13	14	13	6	14	67%	60%	87%	93%	93%	93%	87%	93%	87%	40%	93%
		Curry	20	17	18	18	18	17	16	18	18	16	10	18	85%	90%	90%	90%	85%	80%	90%	90%	80%	50%	90%
		Fall	12	0	0	0	0	0	0	0	0	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Robinson	Nevada	9	1	2	3	3	4	6	4	6	5	6	6	11%	22%	33%	33%	44%	67%	44%	67%	56%	67%	67%
		Curry	5	0	0	1	1	2	2	0	0	0	0	2	0%	0%	20%	20%	40%	40%	0%	0%	0%	0%	40%
		Plaza	3	0	0	0	0	0	0	0	0	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Caroline	Carson	Plaza	6	0	0	0	1	0	0	0	0	0	0	1	0%	0%	0%	17%	0%	0%	0%	0%	0%	0%	17%
	Washington	Nevada	Curry	5	0	2	2	1	1	1	2	2	2	0	2	0%	40%	40%	20%	20%	20%	40%	40%	40%	0%	40%
		Carson	Plaza	5	5	1	1	2	3	2	2	1	3	1	5	100%	20%	20%	40%	60%	40%	40%	20%	60%	20%	100%
	Ann	Nevada	Curry	11	1	1	0	0	0	0	0	1	0	0	1	9%	9%	0%	0%	0%	0%	0%	9%	0%	0%	9%
		Curry	Carson	19	2	1	4	1	4	3	2	2	3	1	4	11%	5%	21%	5%	21%	16%	11%	11%	16%	5%	21%
		Carson	Plaza	14	1	3	5	9	13	10	6	4	4	2	13	7%	21%	36%	64%	93%	71%	43%	29%	29%	14%	93%
	Sophia	Nevada	Curry	14	2	3	3	3	3	3	2	1	3	2	3	14%	21%	21%	21%	21%	21%	14%	7%	21%	14%	21%
		Curry	Carson	8	5	7	7	6	6	6	4	4	4	4	7	63%	88%	88%	75%	75%	75%	50%	50%	50%	50%	88%
		Carson	Plaza	8	3	6	4	7	8	6	7	7	7	5	8	38%	75%	50%	88%	100%	75%	88%	88%	88%	63%	100%
Lots	1	Nevada/2nd/Curry/3rd		96	25	57	68	77	87	89	77	78	72	80	89	26%	59%	71%	80%	91%	93%	80%	81%	75%	83%	93%
	2	Nevada/Musser/Curry		64	6	12	13	13	20	25	22	20	14	13	25	9%	19%	20%	20%	31%	39%	34%	31%	22%	20%	39%
	3	Nugget - Curry/Robinson/ Carson/Spear		66	14	10	12	15	13	14	16	14	7	5	16	21%	15%	18%	23%	20%	21%	24%	21%	11%	8%	24%
	4	NE Corner Ann/Curry		16	0	1	1	1	1	1	1	1	1	1	1	0%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
	5	Nugget - Plaza/Telegraph/ Fall/Proctor		88	26	37	44	53	51	45	43	41	32	28	53	30%	42%	50%	60%	58%	51%	49%	47%	36%	32%	60%
	6	Nugget - Hall/Telegraph/ Steward/Proctor Plaza/Proctor/ Stewart/Musser		57	6	13	16	17	14	14	15	13	12	6	17	11%	23%	28%	30%	25%	25%	26%	23%	21%	11%	30%
	7			537	185	273	293	317	308	317	309	300	247	187	317	34%	51%	55%	59%	57%	59%	58%	56%	46%	35%	59%
Total	Onstreet			823	279	352	406	467	436	460	438	443	463	367	467	34%	43%	49%	57%	53%	56%	53%	54%	56%	45%	57%
	Lots			564	185	273	293	317	308	317	309	300	247	187	317	33%	48%	52%	56%	55%	56%	55%	53%	44%	33%	56%
	Grand Total			**1387**	**464**	**625**	**699**	**784**	**744**	**777**	**747**	**743**	**710**	**554**	**784**	33%	45%	50%	57%	54%	56%	54%	54%	51%	40%	57%

Figure 2
Peak Observed Occupancy Rate - May Counts





Data for each of these three subareas is shown under Appendix A for the North, Central and South areas, respectively. These tables also present the detailed data by type of parking space. Table 3 presents a summary of utilization by subarea. As shown, the South area had the highest peak utilization (76 percent) followed by 60 percent in the Central area and 34 percent in the North area. Utilization peaked in the 11 AM hour for the North and Central areas, and in the 1 PM hour for the South area.

TABLE 3: May Summary By Subarea

	Inventory	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Maximum
Vehicle Count												
North	270	56	76	84	93	89	86	78	74	78	61	93
Central	815	324	404	441	491	441	468	466	462	430	295	491
South	295	84	145	174	200	214	223	203	207	202	198	223
Utilization												
North		21%	28%	31%	34%	33%	32%	29%	27%	29%	23%	34%
Central		40%	50%	54%	60%	54%	57%	57%	57%	53%	36%	60%
South		28%	49%	59%	68%	73%	76%	69%	70%	68%	67%	76%

Finally, the counts can be summarized by the type of space, as shown in Table 4. Total study area peak utilization in the regular spaces and the 2-hour spaces was very similar (58.6 percent versus 60.2 percent). In each of the three subareas, the peak utilization of the 2-hour and unrestricted spaces were roughly equal, indicating a good balance of 2-hour spaces versus unrestricted spaces.

TABLE 4: May Summary of Peak Parked Vehicle Counts by Type

	Regular	2hr	ADA	Resident	Loading	Special	*Total*
Peak Observed Parked Vehicles							
NS Streets	215	44	1	0	0	0	244
EW Street	161	68	3	1	0	0	232
Lots	293	21	8	6	0	4	317
North Subarea	91	2	0	0	0	0	93
Central Subarea	416	78	9	2	0	4	491
South Subarea	170	50	4	6	0	0	223
Grand Total	660	124	11	6	0	4	784
Peak Percent Utilization							
NS Streets	55.6%	71.0%	100.0%	--	0.0%	--	54.1%
EW Street	56.5%	77.3%	25.0%	100.0%	0.0%	0.0%	59.2%
Lots	64.5%	37.5%	47.1%	100.0%	--	100.0%	59.0%
North Subarea	34.7%	40.0%	0.0%	--	--	--	34.4%
Central Subarea	64.6%	57.4%	37.5%	--	0.0%	66.7%	60.2%
South Subarea	77.3%	76.9%	133.3%	85.7%	--	--	75.6%
Grand Total	58.6%	60.2%	36.7%	85.7%	0.0%	66.7%	56.8%

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Chapter 3
September Parking Count Analysis

This chapter documents the parking counts conducted by LSC Transportation Consultants, Inc. on Tuesday, September 24th and Thursday September 26th, 2019. These dates were selected to represent a typical work day not during the legislative session.

PARKING COUNT RESULTS

Table 5 presents the total vehicles observed in each individual block and lot for each hour. Identical to the May analysis, the right hand portion of this table also shows the utilization – the percent of total legal spaces utilized.

A review of Table 5 indicates the following:

- Similar to the May counts, the parking peak was observed during the 11 AM hour. The observed maximum was 722 parked vehicles, equal to 52 percent utilization. This was only 62 less vehicles than in May.

- The maximum on-street parked vehicles were observed to be 441, in the 12 PM hour, equal to 54 percent utilization. This on-street maximum was only 26 vehicles less than those observed in May.

- The maximum lot utilization was 284, or 51 percent utilization, during the 11 AM. This was approximately 8 percent less utilization than observed during the May parking counts.

- While overall utilization does not exceed 53 percent, there are specific "hot spot" areas with high utilization. In particular, the area around Musser between Plaza and Stewart Street also had high utilization, particularly in the afternoon. These occupancy rates are also shown in Figure 4.

- The overall parking counts by hour are shown in Figure 5, which indicates the peak in the 11 AM hour as well as the fact that overall parking demand stayed between 500 and 700 total vehicles throughout the whole day.

The overall data was also summarized into the same three sub-areas as discussed in Chapter 2. Specific data for each of these three subareas is shown in Appendix A for the North, Central and South areas, respectively. These tables also present the detailed data by type of parking space.

Table 6 presents a summary of utilization by subarea. As shown, peak utilization varied from the May counts in terms of subarea location. During September, the Central area had the highest peak utilization (58 percent), whereas peak utilization in May was within the South subarea. September utilization within the South area was 45 percent followed by 37 percent in the North area. Utilization peaked in the 11 AM hour for the Central and South areas, and in the 12 PM hour for the North area.

TABLE 5: September Parking Count and Utilization Summary (1 of 3)

Average of 2 count days

North/South Streets

Street	Between		Inventory	Vehicle Count												Percent Utilization												Maximum
				8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Maximum	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Maximum	
Nevada	5th	4th	10	2	1	2	2	2	2	4	2	1	2	4	20%	10%	20%	20%	20%	20%	40%	20%	10%	20%	40%	
	4th	3rd	9	0	0	0	2	0	2	1	0	0	0	2	0%	0%	0%	22%	0%	22%	11%	0%	0%	0%	22%	
	3rd	2nd	8	2	1	2	2	3	3	2	2	0	1	3	25%	13%	25%	25%	38%	38%	25%	25%	0%	13%	38%	
	2nd	King	8	0	2	3	3	3	4	3	4	3	2	4	0%	25%	38%	38%	38%	50%	38%	50%	38%	25%	50%	
	King	Musser	12	4	4	3	6	5	7	4	4	2	4	7	33%	33%	25%	50%	42%	58%	33%	33%	17%	33%	58%	
	Musser	Proctor	12	11	11	12	12	10	10	10	9	6	3	12	92%	92%	100%	100%	83%	83%	83%	75%	50%	25%	100%	
	Proctor	Telegraph	12	10	9	9	10	8	10	10	7	7	6	10	83%	75%	75%	83%	67%	83%	83%	58%	58%	50%	83%	
	Telegraph	Spear	11	4	6	7	7	7	8	8	4	4	3	8	36%	55%	64%	64%	64%	73%	73%	36%	36%	27%	73%	
	Spear	Robinson	8	3	3	4	4	3	4	4	4	5	6	6	38%	38%	50%	50%	38%	50%	50%	50%	63%	75%	75%	
	Robinson	Caroline	9	1	1	2	2	6	4	4	3	1	4	6	11%	11%	22%	22%	67%	44%	44%	33%	11%	44%	67%	
	Caroline	Washington	8	1	1	2	2	3	2	2	2	0	3	3	13%	13%	25%	25%	38%	25%	25%	25%	0%	38%	38%	
	Washington	Ann	11	2	3	3	3	2	4	4	3	3	0	4	18%	27%	27%	27%	18%	36%	36%	27%	27%	0%	36%	
	Ann	Sophia	13	0	5	4	4	3	3	3	3	2	1	5	0%	38%	31%	31%	23%	23%	23%	23%	15%	8%	38%	
	Sophia	William	13	1	1	2	3	2	3	3	3	2	2	3	8%	8%	15%	23%	15%	23%	23%	23%	15%	15%	23%	
Curry	5th	4th	9	2	3	2	2	2	6	5	4	3	2	6	22%	33%	22%	22%	22%	67%	56%	44%	33%	22%	67%	
	4th	3rd	10	5	6	7	6	8	5	4	6	4	5	8	50%	60%	70%	60%	80%	50%	40%	60%	40%	50%	80%	
	3rd	2nd	8	3	5	6	4	5	5	6	7	6	5	7	38%	63%	75%	50%	63%	63%	75%	88%	75%	63%	88%	
	2nd	King	12	5	8	9	7	6	7	6	7	9	3	9	42%	67%	75%	58%	50%	58%	50%	58%	75%	25%	75%	
	King	Musser	7	4	4	1	2	3	4	4	2	3	4	4	57%	57%	14%	29%	43%	57%	57%	29%	43%	57%	57%	
	Musser	Proctor	16	2	5	12	10	13	11	9	6	10	12	13	13%	31%	75%	63%	81%	69%	56%	38%	63%	75%	81%	
	Proctor	Telegraph	16	10	10	9	14	15	15	11	12	9	10	15	63%	63%	56%	88%	94%	94%	69%	75%	56%	63%	94%	
	Telegraph	Spear	15	3	7	7	8	11	11	10	7	8	9	11	20%	47%	47%	53%	73%	73%	67%	47%	53%	60%	73%	
	Spear	Robinson	15	1	2	3	3	7	8	12	4	6	6	12	7%	13%	20%	20%	47%	53%	80%	27%	40%	40%	80%	
	Robinson	Washington	19	2	5	12	10	8	11	9	8	14	3	14	11%	26%	63%	53%	42%	58%	47%	42%	74%	16%	74%	
	Washington	Ann	7	1	5	4	6	3	7	3	1	0	0	7	14%	71%	57%	86%	43%	100%	43%	14%	0%	0%	100%	
	Ann	Sophia	14	0	3	5	6	4	5	5	4	1	1	6	0%	21%	36%	43%	29%	36%	36%	29%	7%	7%	43%	
	Sophia	William	9	6	4	4	4	5	4	3	2	5	6	6	67%	44%	44%	44%	56%	44%	33%	22%	56%	67%	67%	
Carson	5th	4th	2	0	0	0	0	0	0	0	0	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	4th	3rd	2	1	3	2	2	2	2	2	2	2	2	3	50%	150%	100%	100%	100%	100%	100%	100%	100%	100%	150%	
	3rd	2nd	5	4	4	4	4	4	4	4	4	4	4	4	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	
	Musser	Proctor	4	0	1	1	3	0	0	0	0	0	0	3	0%	25%	25%	75%	0%	0%	0%	0%	0%	0%	75%	
	Proctor	Telegraph	6	2	2	2	4	2	2	2	1	2	2	4	33%	33%	33%	67%	33%	33%	33%	17%	33%	33%	67%	
	Telegraph	Spear	5	2	2	2	3	4	1	3	3	2	3	4	40%	40%	40%	60%	80%	20%	60%	60%	40%	60%	80%	
	Spear	Robinson	6	1	1	4	2	3	3	2	2	2	2	4	17%	17%	67%	33%	50%	50%	33%	33%	33%	33%	67%	
	Robinson	Washington	2	0	3	3	3	3	2	2	3	0	2	3	0%	150%	150%	150%	150%	100%	100%	150%	0%	100%	150%	
	Washington	Ann	2	1	3	2	3	3	3	3	4	3	3	4	50%	150%	100%	150%	150%	150%	150%	200%	150%	150%	200%	

TABLE 5: September Parking Count and Utilization Summary (2 of 3)

Average of 2 count days

Street	Between		Inventory	Vehicle Count										Percent Utilization									
				8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Maximum	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Maximum
North/South Sts																									
Plaza	Musser	Proctor	9	9	9	9	8	9	9	7	7	8	4	9	100%	100%	100%	89%	100%	100%	78%	78%	89%	44%	100%
	Proctor	Telegraph	17	6	9	10	9	8	9	9	7	7	7	10	35%	53%	59%	53%	47%	53%	53%	41%	53%	41%	59%
	Telegraph	Spear	14	14	13	12	12	14	14	12	11	13	10	14	100%	93%	86%	86%	100%	100%	86%	79%	93%	71%	100%
	Robinson	Caroline	7	1	3	1	1	6	2	2	3	2	2	6	14%	43%	14%	14%	86%	29%	29%	43%	29%	29%	86%
	Caroline	Washington	6	0	3	4	1	3	2	2	2	1	0	4	0%	50%	67%	17%	50%	33%	33%	33%	17%	0%	67%
	Washington	Ann	13	2	3	1	2	3	4	4	3	2	3	4	15%	23%	8%	15%	23%	31%	31%	23%	15%	23%	31%
	Ann	Sophia	11	6	5	7	8	5	6	6	5	3	5	8	55%	45%	64%	73%	45%	55%	55%	45%	27%	45%	73%
	Sophia	William	5	1	2	2	1	4	1	1	1	1	1	4	20%	40%	40%	20%	80%	20%	20%	20%	20%	20%	80%
Fall	Musser	Proctor	6	6	6	6	6	6	6	5	6	5	2	6	100%	100%	100%	100%	100%	100%	83%	100%	83%	33%	100%
	Proctor	Telegraph	12	2	3	8	7	6	4	4	4	4	4	8	17%	25%	67%	58%	50%	33%	33%	33%	33%	33%	67%
	Telegraph	Spear	8	1	1	1	1	1	1	1	1	1	0	1	13%	13%	13%	13%	13%	13%	13%	13%	13%	0%	13%
	Spear	Robinson	5	1	1	2	2	5	2	2	2	2	2	5	20%	20%	40%	40%	100%	40%	40%	40%	40%	40%	100%
East/West Streets																									
5th	Nevada	Curry	13	0	0	0	2	1	2	2	0	0	0	2	0%	0%	0%	15%	8%	15%	15%	0%	0%	0%	15%
4th	Nevada	Curry	10	3	2	3	3	6	4	4	2	2	1	6	30%	20%	30%	30%	60%	40%	40%	20%	20%	10%	60%
	Curry	Carson	18	2	5	8	11	12	14	13	8	11	6	14	11%	28%	44%	61%	67%	78%	72%	44%	61%	33%	78%
2nd	Nevada	Curry	10	4	8	8	11	9	8	7	6	8	2	11	40%	80%	80%	110%	90%	80%	70%	60%	80%	20%	110%
	Curry	Carson	12	5	4	4	7	5	3	3	3	2	4	7	42%	33%	33%	58%	42%	25%	25%	25%	17%	33%	58%
King	Nevada	Curry	21	10	13	16	19	10	6	10	14	14	4	19	48%	62%	76%	90%	48%	29%	48%	67%	67%	19%	90%
Musser	Nevada	Curry	10	5	5	5	6	7	4	4	4	4	2	7	50%	50%	50%	60%	70%	40%	40%	40%	40%	20%	70%
	Curry	Carson	4	1	0	3	3	1	3	3	1	1	0	3	25%	0%	75%	75%	25%	75%	75%	25%	25%	0%	75%
	Plaza	Fall	12	11	10	10	12	9	9	9	10	12	6	12	92%	83%	83%	100%	75%	75%	75%	83%	100%	50%	100%
	Fall	Stewart	6	6	6	6	5	5	6	6	6	2	2	6	100%	100%	100%	83%	83%	100%	100%	100%	33%	33%	100%
Proctor	Curry	Carson	18	3	6	10	15	15	13	12	10	14	13	15	17%	33%	56%	83%	83%	72%	67%	56%	78%	72%	83%
	Carson	Plaza	16	8	5	7	8	9	8	7	10	10	10	10	50%	31%	44%	50%	56%	50%	44%	63%	63%	63%	63%
	Plaza	Fall	10	4	6	8	9	7	6	6	7	5	4	9	40%	60%	80%	90%	70%	60%	60%	70%	50%	40%	90%
	Fall	Stewart	8	2	6	7	8	6	5	5	4	3	2	8	25%	75%	88%	100%	75%	63%	63%	50%	38%	25%	100%
Telegraph	Nevada	Curry	10	6	5	9	9	6	10	3	3	2	3	10	60%	50%	90%	90%	60%	100%	30%	30%	20%	30%	100%
	Curry	Carson	18	12	12	14	14	17	13	13	16	10	10	17	67%	67%	78%	78%	94%	72%	72%	89%	56%	56%	94%
	Carson	Plaza	15	3	7	4	4	6	8	7	8	8	9	9	20%	47%	27%	27%	40%	53%	47%	53%	53%	60%	60%
	Plaza	Fall	6	2	0	3	3	2	3	3	3	2	3	3	33%	0%	50%	50%	33%	50%	50%	50%	33%	50%	50%
	Fall	Stewart	11	0	0	0	1	0	0	0	0	1	8	8	0%	0%	0%	9%	0%	0%	0%	0%	9%	73%	73%

TABLE 5: September Parking Count and Utilization Summary (3 of 3)

Average of 2 count days

	Street	Between		Inventory	Vehicle Count 8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Maximum	Percent Utilization 8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Maximum
East/West Streets	Spear	Nevada	Curry	14	11	9	11	12	11	12	6	9	9	7	12	79%	64%	79%	86%	79%	86%	43%	64%	64%	50%	86%
		Curry	Carson	20	10	12	13	15	18	15	15	13	13	13	18	50%	60%	65%	75%	90%	75%	75%	65%	65%	65%	90%
		Fall	Stewart	12	0	0	0	1	1	1	1	1	1	1	1	0%	0%	0%	8%	8%	8%	8%	8%	8%	8%	8%
	Robinson	Nevada	Curry	9	1	1	2	2	1	3	2	2	2	2	3	11%	11%	22%	22%	11%	33%	22%	22%	22%	22%	33%
		Curry	Carson	5	0	0	0	2	4	3	3	0	0	0	4	0%	0%	0%	40%	80%	60%	60%	0%	0%	0%	80%
		Plaza	Fall	3	0	0	0	0	0	0	0	0	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Caroline	Carson	Plaza	6	1	2	2	2	4	1	1	0	2	0	4	17%	33%	33%	33%	67%	17%	17%	0%	33%	0%	67%
	Washington	Nevada	Curry	8	1	2	3	3	2	3	2	2	2	2	3	13%	25%	38%	38%	25%	38%	25%	25%	25%	25%	38%
		Carson	Plaza	7	1	2	2	2	3	1	2	2	2	2	3	14%	29%	29%	29%	43%	14%	29%	29%	29%	29%	43%
	Ann	Nevada	Curry	11	2	3	1	1	2	2	3	1	1	2	3	18%	27%	9%	9%	18%	18%	27%	9%	9%	18%	27%
		Curry	Carson	17	5	8	1	1	2	3	0	3	1	4	8	29%	47%	6%	6%	12%	18%	0%	18%	6%	24%	47%
		Carson	Plaza	17	2	3	3	7	7	5	5	5	3	4	7	12%	18%	18%	41%	41%	29%	29%	29%	18%	24%	41%
	Sophia	Nevada	Curry	10	3	4	5	4	4	4	4	3	4	3	5	30%	40%	50%	40%	40%	40%	40%	30%	40%	30%	50%
		Curry	Carson	9	3	5	6	4	6	5	4	3	4	3	6	33%	56%	67%	44%	67%	56%	44%	33%	44%	33%	67%
		Carson	Plaza	8	4	4	4	6	5	7	6	6	5	3	7	50%	50%	50%	75%	63%	88%	75%	75%	63%	38%	88%
Lots	1	Nevada/2nd/Curry/3rd		93	26	35	33	33	39	38	38	41	32	44	44	28%	38%	35%	35%	42%	41%	41%	44%	34%	47%	47%
	2	Nevada/Musser/Curry		93	42	48	48	49	54	55	57	48	36	57	57	45%	52%	52%	53%	58%	59%	61%	52%	39%	61%	61%
	3	Nugget - Curry/Robinson/ Carson/Spear		66	7	7	8	7	8	8	15	9	8	4	15	11%	11%	12%	11%	12%	12%	23%	14%	12%	6%	23%
	4	NE Corner Ann/Curry		16	1	2	2	2	3	2	2	1	2	1	3	6%	13%	13%	13%	19%	13%	13%	6%	13%	6%	19%
	5	Nugget - Plaza/Telegraph/ Fall/Proctor		88	18	30	33	34	35	32	32	31	29	21	35	20%	34%	38%	39%	40%	36%	36%	35%	33%	24%	40%
	6	Nugget - Hall/Telegraph/ Stewart/Proctor		57	12	15	18	17	10	12	12	12	8	6	18	21%	26%	32%	30%	18%	21%	21%	21%	14%	11%	32%
	7	Plaza/Proctor/ Stewart/Musser		151	136	138	141	142	124	129	126	131	109	55	142	90%	91%	93%	94%	82%	85%	83%	87%	72%	36%	94%
		Total		562	241	273	282	284	273	275	281	271	223	187	284	43%	49%	50%	51%	49%	49%	50%	48%	40%	33%	51%
Total		Onstreet		823	276	347	397	438	441	432	393	356	340	296	441	34%	42%	48%	53%	54%	52%	48%	43%	41%	36%	54%
		Lots		564	241	273	282	284	273	275	281	271	223	187	284	43%	48%	50%	50%	48%	49%	50%	48%	40%	33%	50%
		Grand Total		***1387***	***517***	***620***	***679***	***722***	***714***	***707***	***674***	***627***	***563***	***483***	***722***	37%	45%	49%	52%	51%	51%	49%	45%	41%	35%	52%

Figure 4

Peak Observed Occupancy Rate - September Counts

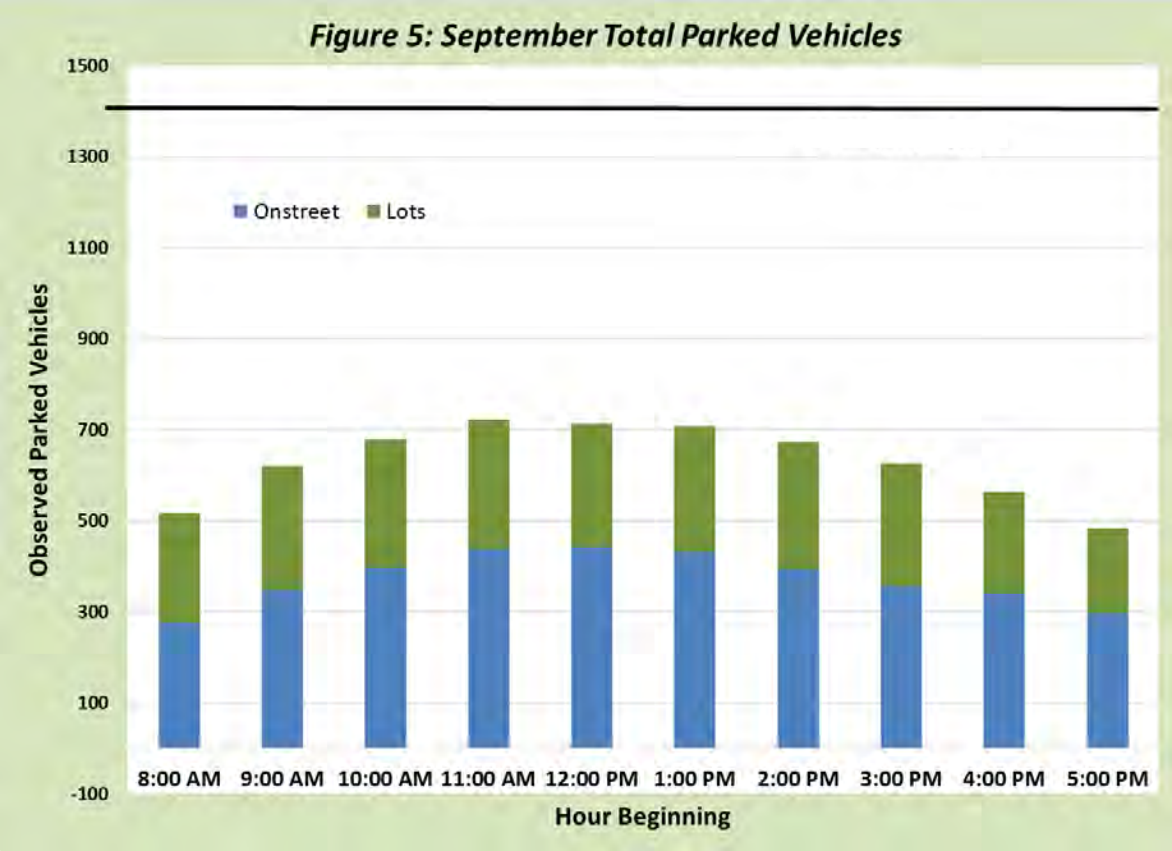


TABLE 6: September Summary By Subarea

Data is the average of the 2 count days

	Inventory	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Maximum
Vehicle Count												
North	275	48	83	87	90	102	98	88	75	64	60	102
Central	842	380	421	471	490	477	473	455	425	381	320	490
South	279	78	105	111	125	122	123	119	114	103	91	125
Total	*1396*	*505*	*608*	*668*	*704*	*701*	*694*	*661*	*614*	*548*	*470*	*704*
Utilization												
North		17%	30%	31%	33%	37%	36%	32%	27%	23%	22%	37%
Central		45%	50%	56%	58%	57%	56%	54%	50%	45%	38%	58%
South		28%	38%	40%	45%	44%	44%	42%	41%	37%	33%	45%
Total		*36%*	*44%*	*48%*	*50%*	*50%*	*50%*	*47%*	*44%*	*39%*	*34%*	*50%*

Finally, the counts can be summarized by the type of space, as shown in Table 7. Unlike the counts conducted during May, September peak utilization in the 2-hour spaces were greater than the regular spaces (56.3 percent and 50.8 percent respectively). This was particularly true for the northern subarea, where the peak utilization of the 2-hour spaces was 62.5 percent compared with a peak utilization of the unrestricted spaces of 33.3 percent. This indicates that overall parking use and convenience could be improved for this area by designating more unrestricted spaces (roughly 4 to 8 spaces) into 2-hour parking spaces.

TABLE 7: September Summary of Peak Parked Vehicle Counts by Type

	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	*Total*
Peak[1] Observed Parked Vehicles									
NS Streets	130	81	2	3	0	0	0	3	219
EW Street	121	78	3	0	1	1	0	1	205
Lots	252	19	8	1	0	0	1	4	285
North Subarea	80	10	0	0	0	0	0	0	90
Central Subarea	336	132	11	3	1	1	1	8	493
South Subarea	87	36	2	1	0	0	0	0	126
Grand Total	*503*	*178*	*13*	*4*	*1*	*1*	*1*	*8*	*709*
Peak Percent Utilization									
NS Streets	46.9%	55.5%	100.0%	75.0%	0.0%	0.0%	--	50.0%	48.9%
EW Street	51.1%	66.7%	23.1%	0.0%	12.5%	33.3%	--	25.0%	53.5%
Lots	52.8%	35.8%	40.0%	16.7%	--	--	50.0%	66.7%	50.5%
North Subarea	33.3%	62.5%	0.0%	0.0%	0.0%	0.0%	--	0.0%	32.7%
Central Subarea	60.8%	55.9%	40.7%	150.0%	14.3%	50.0%	50.0%	61.5%	58.6%
South Subarea	43.9%	56.3%	40.0%	12.5%	0.0%	--	0.0%	--	45.2%
Grand Total	50.8%	56.3%	37.1%	36.4%	6.7%	11.1%	50.0%	50.0%	50.8%

Note 1: Peak is defined by peak hour (11:00AM) of all parked vehicles within the study area. As such sub areas or type can have a greater indivudual peak.

PARKING TURNOVER COUNTS

Parking turnover counts provide information regarding how long individual vehicles are parked in specific areas. These counts consist of recording the last four digits of vehicle license plates on a half-hourly basis over an 8-hour period, and then matching the data to identify the parking duration of individual vehicles. (Recording four digits has been found to be sufficient to avoid any duplicates, and also avoids issues related to personal privacy associated with recording full license plate numbers.) This is particularly useful in assessing whether individual vehicles are associated with employees (typically parking 3 or more hours) versus customers (parking a shorter duration), as well as the appropriate designation of timed parking restrictions.

LSC conducted parking turnover counts in two areas found to be relatively busy: (1) a **south area** around 3rd Street, Carson Street, 5th Street and Curry Street and (2) a **central area** around Telegraph Street,

Curry Street, Musser Street and Nevada Street. These count areas include both 2-hour and unrestricted spaces, and the specific type of space was identified. Staffers recorded license plates observed in each space every half-hour from the 9:00 AM – 9:30 AM period until the 3:30 PM – 4:00 PM period. The data was then analyzed to identify the number of individual vehicles parking in each area by their estimated parking duration. Vehicles observed only once are estimated to average 0.5 hours (30 minutes) in duration, vehicles observed twice are estimated to stay one hour, etcetera.

The results for the southern area is shown in Table 8. A review of this data indicates the following:

- The overall average parking duration in this area was 1.6 hours. The spaces designated for 2-hour parking (along Carson Street and the block of 4th Street from Carson to Curry) had an average duration of 1.2 hours, while the undesignated spaces had a duration of 2.1 hours.

TABLE 8: South Area Observed Parking Duration

Exceeds Time Limit

Street	Segment	Side	Type of Space	Estimated Parking Duration 0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7+	Average
Number of Observed Vehicles																		
Carson St	5th to 4th	West	2 Hr	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5
	4th to 3rd	East	2 Hr	4	4	3	0	0	0	0	0	0	0	0	0	0	0	1.0
4th St	Carson to Curry	North	2 Hr	8	4	3	0	2	0	0	0	0	0	0	0	0	0	1.0
		South	2 Hr	17	13	6	5	2	0	4	0	0	1	0	0	0	0	1.3
	Curry to Nevada	North	Regular	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5.5
		South	Regular	1	1	1	0	0	1	1	0	0	0	0	0	0	0	1.9
Curry St	5th to 4th	East	Regular	1	0	3	0	2	0	1	0	0	0	0	0	0	0	1.9
		West	Regular	2	2	0	0	1	0	0	0	0	0	0	0	0	0	1.1
	4th to 3rd	East	Regular	5	1	0	1	0	1	0	0	0	0	1	0	0	2	2.7
		West	Regular	4	6	3	1	0	0	0	0	0	1	1	0	0	0	1.6
Nevada St	5th to 4th	East	Regular	0	0	0	0	0	1	0	0	0	0	0	0	0	1	5.5
		West	Regular	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4.0
	4th to 3rd	East	Regular	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1.5
		West	Regular	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1.2
Subtotal: 2 Hr				31	21	12	5	4	0	4	0	0	1	0	0	0	0	1.2
Subtotal: Regular				15	10	9	2	4	3	2	1	0	1	3	0	0	3	2.1
Total				46	31	21	7	8	3	6	1	0	2	3	0	0	3	1.6
Percent of Observed Vehicles																		Total Exceeding
Carson St	5th to 4th	West	2 Hr	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	4th to 3rd	East	2 Hr	36%	36%	27%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
4th St	Carson to Curry	North	2 Hr	47%	24%	18%	0%	12%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%
		South	2 Hr	35%	27%	13%	10%	4%	0%	8%	0%	0%	2%	0%	0%	0%	0%	15%
	Curry to Nevada	North	Regular	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	--
		South	Regular	20%	20%	20%	0%	0%	20%	20%	0%	0%	0%	0%	0%	0%	0%	--
Curry St	5th to 4th	East	Regular	14%	0%	43%	0%	29%	0%	14%	0%	0%	0%	0%	0%	0%	0%	--
		West	Regular	40%	40%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	--
	4th to 3rd	East	Regular	45%	9%	0%	9%	0%	9%	0%	0%	0%	0%	9%	0%	0%	18%	--
		West	Regular	25%	38%	19%	6%	0%	0%	0%	0%	0%	6%	6%	0%	0%	0%	--
Nevada St	5th to 4th	East	Regular	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%	50%	--
		West	Regular	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	--
	4th to 3rd	East	Regular	50%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	--
		West	Regular	33%	0%	67%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	--
Subtotal: 2 Hr				40%	27%	15%	6%	5%	0%	5%	0%	0%	1%	0%	0%	0%	0%	12%
Subtotal: Regular				28%	19%	17%	4%	8%	6%	4%	2%	0%	2%	6%	0%	0%	6%	--
Total				35%	24%	16%	5%	6%	2%	5%	1%	0%	2%	2%	0%	0%	2%	--

Source: LSC counts conducted on Thursday October 3, 2019.

- 14 percent of all vehicles observed in this area parked for 3 or more hours, indicating a relatively low use by employees. These longer-term parkers were spread around the area, with no real concentration in any one block.

- Of the 78 total vehicles parking in the 2-hour spaces, 9 (or 12 percent) exceeded the 2-hour time limit. All of the vehicles exceeding the 2-hour limit parked along 4th Street, with none along Carson Street.

Table 9 provides the results for the central area, indicating the following:

TABLE 9: Central Area Observed Parking Duration

Exceeds Time Limit

Street	Segment	Side	Type of Space	Estimated Parking Duration 0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7+	Average
Number of Observed Vehicles																		
Musser	Carson to Curry	Regular	2 Hr	6	0	1	0	0	0	0	0	0	0	0	0	0	1	1.6
	Curry to Nevada	North	2 Hr	0	1	0	1	1	0	0	0	1	1	0	0	0	0	3.0
		South	2 Hr	1	0	1	1	0	1	0	1	1	0	0	0	0	1	3.4
	Plaza to Fall	North	Regular	0	1	1	1	0	0	1	0	0	0	1	0	0	5	5.4
		South	Regular	0	1	0	1	0	0	1	0	0	0	0	0	0	1	3.6
			Loading	4	0	0	0	0	0	0	0	0	0	0	1	0	0	1.6
Curry	Telegraph to Proctor	East	2 Hr	11	17	5	7	1	0	0	1	1	0	0	0	0	1	1.4
		West	2 Hr	11	4	5	2	2	0	0	0	0	0	0	0	0	0	1.1
	Musser to Proctor	East	2 Hr	14	7	0	3	3	2	0	0	1	0	0	1	0	0	1.4
		West	2 Hr	4	1	3	2	1	0	0	0	0	0	0	0	0	0	1.3
			Loading	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5
Carson	Musser to Proctor	West	2 Hr	7	2	3	0	0	0	0	0	0	0	0	0	0	0	0.8
	Proctor to Telegraph	West	20 Min	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0.6
		East	2 Hr	1	2	2	2	1	0	0	0	0	0	0	0	0	0	1.5
Proctor	Carson to Plaza	North	2 Hr	11	13	10	10	1	0	0	0	0	0	0	0	0	0	1.2
		South	2 Hr	10	2	5	1	2	1	1	0	0	0	0	0	0	0	1.3
Subtotal: Loading				5	0	0	0	0	0	0	0	0	0	0	1	0	0	1.4
Subtotal: 20 Minute				8	2	0	0	0	0	0	0	0	0	0	0	0	0	0.6
Subtotal: 2 Hr				76	49	35	29	12	4	1	2	4	1	0	1	0	3	1.4
Subtotal: Regular				0	2	1	2	0	0	2	0	0	0	1	0	0	6	4.9
Total				89	53	36	31	12	4	3	2	4	1	1	2	0	9	1.6

Street	Segment	Side	Type of Space	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7+	Total Exceeding
Percent of Observed Vehicles																		
Musser	Carson to Curry	Regular	2 Hr	75%	0%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	13%
	Curry to Nevada	North	2 Hr	0%	20%	0%	20%	20%	0%	0%	0%	20%	20%	0%	0%	0%	0%	60%
		South	2 Hr	14%	0%	14%	14%	0%	14%	0%	14%	14%	0%	0%	0%	0%	14%	57%
	Plaza to Fall	North	Regular	0%	10%	10%	10%	0%	0%	10%	0%	0%	0%	10%	0%	0%	50%	--
		South	Regular	0%	25%	0%	25%	0%	0%	25%	0%	0%	0%	0%	0%	0%	25%	--
			Loading	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%	--
Curry	Telegraph to Proctor	East	2 Hr	25%	39%	11%	16%	2%	0%	0%	2%	2%	0%	0%	0%	0%	2%	--
		West	2 Hr	46%	17%	21%	8%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	--
	Musser to Proctor	East	2 Hr	45%	23%	0%	10%	10%	6%	0%	0%	3%	0%	0%	3%	0%	0%	--
		West	2 Hr	36%	9%	27%	18%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	--
			Loading	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	--
Carson	Musser to Proctor	West	2 Hr	58%	17%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Proctor to Telegraph	West	20 Min	80%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%
		East	2 Hr	13%	25%	25%	25%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%
Proctor	Carson to Plaza	North	2 Hr	24%	29%	22%	22%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
		South	2 Hr	45%	9%	23%	5%	9%	5%	5%	0%	0%	0%	0%	0%	0%	0%	18%
Subtotal: Loading				83%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	0%	0%	--
Subtotal: 20 Minute				80%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%
Subtotal: 2 Hr				35%	23%	16%	13%	6%	2%	0%	1%	2%	0%	0%	0%	0%	1%	13%
Subtotal: Regular				0%	14%	7%	14%	0%	0%	14%	0%	0%	0%	7%	0%	0%	43%	--
Total				36%	21%	15%	13%	5%	2%	1%	1%	2%	0%	0%	1%	0%	4%	--

Source: LSC counts conducted on Thursday October 3, 2019.

- Overall average parking duration within the Central Area was observed to be 1.6 hours. Vehicles in the undesignated spaces had an average duration of 4.9 hours, those with a 2-hour time limit had an average duration of 1.4 hours, while the 20-minute spaces had an average of 0.6 hours.

- The undesignated spaces had 64 percent of vehicles staying longer than 3 hours. Of the total of 9 vehicles parked for these longer stays, 6 of them were parked along Musser Street between Plaza Street and Fall Street.

- During observation, 13 percent of the vehicles parked in the 2-hour spaces (27 out of a total of 217) exceeded the 2-hour parking limit. Of those 27 vehicles observed, 3 vehicles were parked throughout the 7-hour count period. Of the vehicles exceeding the 2-hour parking limit within the Central area, half of the vehicles were located along Curry Street (7 of 14).

- The 3 spaces along the west side of Carson Street between Procter and Telegraph designated for 20-minute parking duration were observed to be used by a total of 10 vehicles, of which 8 were observed once and 2 were observed twice. Note that many more vehicles may have parked in these spaces for short periods between the half-hourly counts. This indicates that the 20-minute designation is effective in providing convenient space for short-term stops.

Overall between the two areas, this data indicates that the designation of spaces for limited duration (largely 2-hour spaces) is effective in shifting longer term parking to other areas and increasing availability of on-street parking for shorter stops. With the exception of the spaces along Musser Street between Plaza Street and Fall Street, the level of employee parking use in the two areas is low.

Chapter 4
Conclusions and Recommendations

This chapter provides a summary of the count data, and discusses potential changes in the parking program, as follows:

- There is overall sufficient public parking available in downtown Carson City, with a maximum observed utilization rate of 57 percent when the Legislature is in session and 51 percent at other times.

- Considered by three sub-areas, the northern area (from Robinson Street north) has the lowest peak utilization of 34 percent in the May counts and 33 percent in the September counts. The central area from Musser Street north to Robinson Street had utilization rates of 60 percent in May and 59 percent in September. The southern area (south of Musser) had the highest peak utilization rate of 76 percent in May, dropping to 45 percent in September.

- Not surprisingly, the parking areas convenient to the State Capitol buildings (between King Street and 5th Street west of the Capitol and between Plaza Street and Stewart Street north of the Capitol) have overall high parking utilization at peak times (from roughly 10 AM to 5 PM) during the Legislative session. Parking availability when the Legislature is not in session is much better, with high utilization confined to only the one block just to the north of the Musset Street. Even in the busiest times, however, there are many spaces available in the Nugget lots one block from the Capitol buildings.

- Several of the off-street lots were never observed to be more than half full, specifically Lot 3 (Nugget Lot between Curry/Robinson/Carson/Spear), Lot 4 on the northeast corner of Ann and Curry and Lot 6 (Nugget Lot between Fall/Telegraph/Stewart/Proctor. This indicates that educational efforts such as a parking map could be beneficial in directing more motorists towards using Lots 3 and 4.

- The higher utilization rate of 2-hour spaces over regular spaces in the North subarea (63 percent in May versus 33 percent peak utilization in the September) indicates that it may be worthwhile to designate 4 to 8 more spaces in the North subarea for 2-hour parking.

- Lot 2 is comprised of two separate parking lots. The northern lot was recently repaved and striped with all spaces (with the exception of the Lumos Engineering spaces) designated as 2-hour parking to provide customer parking. The southern portion of Lot 2 is private property of the First Presbyterian Church. On weekdays the “Church lot” is opened to the public with no parking restrictions. It is observed that the Church lot reaches 90 to 100 percent utilization most of the day while the 2-hour lot reaches 50 percent utilization for only one count interval and is less than 25% most of the day. Curry Street between Musser and Proctor near Lot 2 (immediately adjacent to commercial uses) is designated 2-hour only parking. Though busy, parking on this block never reaches 100 percent utilization. The on-street parking in front of residential homes along Nevada Street on the block adjacent to Lot 2 experiences utilization of 80 to 90% most of the day. It is recommended that the 16 spaces on the south side of the northern lot should be made unrestricted rather than 2-hour parking. This would increase the utilization of Lot 2 and reduce the number of vehicles parking on-street in the residential

neighborhoods. The City will need to coordinate with the Adams Foundation to see whether an agreement could be made to derestrict the 16 parking spaces within Lot 2 to improve downtown parking utilization.

Note that specific changes in parking regulations needs to consider particular local issues beyond the overall parking counts, utilization and turnover data discussed in this report.

Appendix A

TABLE A: North Area Detailed Counts (1 of 2)

			Between		Inventory						8:00 AM						9:00 AM						10:00 AM						11:00 AM						12:00 PM					
					Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*
N/S Streets	Nevada	Robinson	Caroline		9						*9*	3						*3*	3						*3*	4						*4*	3						*3*	1						*1*
		Caroline	Washington		8						*8*	1						*1*	1						*1*	1						*1*	3						*3*	1						*1*
		Washington	Ann		11						*11*	2						*2*	3						*3*	2						*2*	2						*2*							
		Ann	Sophia		13						*13*	1						*1*	2						*2*	2						*2*	3						*3*	2						*2*
		Sophia	William		14						*14*																																			
		Total			**55**						***55***	**7**						*7*	**9**						*9*	**9**						*9*	**11**						*11*	**4**						*4*
	Curry	Robinson	Washington		18						*18*	13						*13*	14						*14*	17						*17*	16						*16*	14						*14*
		Washington	Ann		9						*9*	3						*3*	4						*4*	4						*4*	5						*5*	5						*5*
		Ann	Sophia		14						*14*								1						*1*	2						*2*	4						*4*	2						*2*
		Sophia	William		8						*8*	1						*1*	4						*4*	4						*4*	3						*3*	1						*1*
		Total			**49**						***49***	**17**						*17*	**23**						*23*	**27**						*27*	**28**						*28*	**22**						*22*
	Carson	Robinson	Washington			3					*3*									1					*1*									1					*1*							
		Washington	Ann			2					*2*																							1					*1*							
		Total				**5**					***5***									**1**					*1*									**2**					*2*							
	Plaza	Robinson	Caroline		6						*6*	1						*1*	1						*1*	2						*2*	1						*1*	1						*1*
		Caroline	Washington		5						*5*																													1						*1*
		Washington	Ann		13						*13*	2						*2*	5						*5*	5						*5*	5						*5*	6						*6*
		Ann	Sophia		13						*13*	7						*7*	8						*8*	8						*8*	10						*10*	9						*9*
		Sophia	William		3						*3*	2						*2*	2						*2*	2						*2*	1						*1*	1						*1*
		Total			**40**						***40***	**12**						*12*	**16**						*16*	**17**						*17*	**17**						*17*	**18**						*18*
E/W Streets	Robinson	Nevada	Curry		9						*9*	1						*1*	2						*2*	3						*3*	3						*3*	4						*4*
		Curry	Carson		5						*5*															1						*1*	1						*1*	2						*2*
		Total			**14**						***14***	**1**						*1*	**2**						*2*	**4**						*4*	**4**						*4*	**6**						*6*
	Caroline	Carson	Plaza		6						*6*																						1						*1*							
	Washington	Nevada	Curry		5						*5*								2						*2*	2						*2*	1						*1*	1						*1*
		Carson	Plaza		5						*5*	5						*5*	1						*1*	1						*1*	2						*2*	3						*3*
		Total			**10**						***10***	**5**						*5*	**3**						*3*	**3**						*3*	**3**						*3*	**4**						*4*
	Ann	Nevada	Curry		11						*11*	1						*1*	1						*1*																					
		Curry	Carson		19						*19*	2						*2*	1						*1*	4						*4*	1						*1*	4						*4*
		Carson	Plaza		13	2					*15*	1						*1*	3						*3*	5						*5*	9						*9*	13						*13*
		Total			**43**	**2**					***45***	**4**						*4*	**5**						*5*	**9**						*9*	**10**						*10*	**17**						*17*
	Sophia	Nevada	Curry		14						*14*	2						*2*	3						*3*	3						*3*	3						*3*	3						*3*
		Curry	Carson		8						*8*	5						*5*	7						*7*	7						*7*	6						*6*	6						*6*
		Carson	Plaza		8						*8*	3						*3*	6						*6*	4						*4*	7						*7*	8						*8*
		Total			**30**						***30***	**10**						*10*	**16**						*16*	**14**						*14*	**16**						*16*	**17**						*17*
Lot		4			15	1					*16*								1						*1*	1						*1*	1						*1*	1						*1*
		Total			**15**	**1**					***16***								**1**						*1*	**1**						*1*	**1**						*1*	**1**						*1*
Total		NS Streets			*144*	*5*					*149*	*36*						*36*	*48*	*1*					*49*	*53*						*53*	*56*	*2*					*58*	*44*						*44*
		EW Street			*103*		*2*				*105*	*20*						*20*	*26*						*26*	*30*						*30*	*34*						*34*	*44*						*44*
		Lots			*15*		*1*				*16*								*1*						*1*	*1*						*1*	*1*						*1*	*1*						*1*
		Grand Total			***262***	***5***	***3***				***270***	***56***						***56***	***75***	***1***					***76***	***84***						***84***	***91***	***2***					***93***	***89***						***89***

TABLE A: North Area Detailed Counts (2 of 2)

			Between		Inventory							1:00 PM							2:00 PM							3:00 PM							4:00 PM							5:00 PM						
					Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*
N/S Streets	Nevada	Robinson	Caroline		9						*9*	1						*1*															1						*1*							
		Caroline	Washington		8						*8*	1						*1*	2						*2*	2						*2*	1						*1*	1						*1*
		Washington	Ann		11						*11*	1						*1*	3						*3*	3						*3*	1						*1*	1						*1*
		Ann	Sophia		13						*13*	1						*1*	4						*4*	4						*4*	5						*5*	4						*4*
		Sophia	William		14						*14*								1						*1*	1						*1*	2						*2*	3						*3*
		Total			**55**						***55***	**4**						*4*	**10**						*10*	**10**						*10*	**10**						***10***	**9**						*9*
	Curry	Robinson	Washington		18						*18*	16						*16*	14						*14*	13						*13*	12						*12*	10						*10*
		Washington	Ann		9						*9*	4						*4*	4						*4*	4						*4*	5						*5*	3						*3*
		Ann	Sophia		14						*14*	4						*4*	4						*4*	2						*2*	3						*3*	3						*3*
		Sophia	William		8						*8*	4						*4*	2						*2*	1						*1*	2						*2*	3						*3*
		Total			**49**						***49***	**28**						*28*	**24**						*24*	**20**						*20*	**22**						*22*	**19**						*19*
	Carson	Robinson	Washington			3					*3*		1					*1*		1					*1*																					
		Washington	Ann			2					*2*																							1					*1*							
		Total				**5**					***5***		**1**					*1*		**1**					*1*									**1**					*1*							
	Plaza	Robinson	Caroline		6						*6*	1						*1*	3						*3*	5						*5*	2						*2*	5						*5*
		Caroline	Washington		5						*5*																													1						*1*
		Washington	Ann		13						*13*	5						*5*	4						*4*	3						*3*	3						*3*	2						*2*
		Ann	Sophia		13						*13*	5						*5*	5						*5*	6						*6*	7						*7*	2						*2*
		Sophia	William		3						*3*	2						*2*	1						*1*	1						*1*	1						*1*	1						*1*
		Total			**40**						***40***	**13**						*13*	**13**						*13*	**15**						*15*	**13**						*13*	**11**						*11*
E/W Streets	Robinson	Nevada	Curry		9						*9*	6						*6*	4						*4*	6						*6*	5						*5*	6						*6*
		Curry	Carson		5						*5*	2						*2*																											
		Total			**14**						***14***	**8**						*8*	**4**						*4*	**6**						*6*	**5**						*5*	**6**						*6*
	Caroline	Carson	Plaza		6						*6*																																			
	Washington	Nevada	Curry		5						*5*	1						*1*	2						*2*	2						*2*	2						*2*							
		Carson	Plaza		5						*5*	2						*2*	2						*2*	1						*1*	3						*3*	1						*1*
		Total			**10**						***10***	**3**						*3*	**4**						*4*	**3**						*3*	**5**						*5*	**1**						*1*
	Ann	Nevada	Curry		11						*11*															1						*1*													
		Curry	Carson		19						*19*	3						*3*	2						*2*	2						*2*	3						*3*	1						*1*
		Carson	Plaza		13	2					*15*	10						*10*	6						*6*	4						*4*	4						*4*	2						*2*
		Total			**43**	**2**					***45***	**13**						*13*	**8**						*8*	**7**						*7*	**7**						*7*	**3**						*3*
	Sophia	Nevada	Curry		14						*14*	3						*3*	2						*2*	1						*1*	3						*3*	2						*2*
		Curry	Carson		8						*8*	6						*6*	4						*4*	4						*4*	4						*4*	4						*4*
		Carson	Plaza		8						*8*	6						*6*	7						*7*	7						*7*	7						*7*	5						*5*
		Total			**30**						***30***	**15**						*15*	**13**						*13*	**12**						*12*	**14**						*14*	**11**						*11*
Lot		4			15	1					*16*	1						*1*	1						*1*	1						*1*	1						*1*	1						*1*
		Total			**15**	**1**					***16***	**1**						*1*	**1**						*1*	**1**						*1*	**1**						*1*	**1**						*1*
Total		NS Streets			*144*	*5*					*149*	*45*	*1*					*46*	*47*	*1*					*48*	*45*						*45*	*45*	*1*					*46*	*39*						*39*
		EW Street			*103*		*2*				*105*	*39*						*39*	*29*						*29*	*28*						*28*	*31*						*31*	*21*						*21*
		Lots			*15*		*1*				*16*	*1*						*1*	*1*						*1*	*1*						*1*	*1*						*1*	*1*						*1*
		Grand Total			***262***	***5***	***3***				***270***	***85***	***1***					***86***	***77***	***1***					***78***	***74***						***74***	***77***	***1***					***78***	***61***						***61***

TABLE B: Central Area Detailed Counts (1 of 2)

					Inventory							8:00 AM							9:00 AM							10:00 AM							11:00 AM							12:00 PM						
			Between		Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*
N/S Streets	Nevada	Musser	Proctor		12						*12*	10						*10*	9						*9*	11						*11*	13						*13*	12						*12*
		Proctor	Telegraph		12						*12*	12						*12*	10						*10*	10						*10*	11						*11*	10						*10*
		Telegraph	Spear		11						*11*	4						*4*	5						*5*	5						*5*	6						*6*	5						*5*
		Spear	Robinson		10						*10*	2						*2*	2						*2*	4						*4*	2						*2*	2						*2*
		Total			**45**						***45***	**28**						*28*	**26**						*26*	**30**						*30*	**32**						*32*	**29**						*29*
	Curry	Musser	Proctor		15				1		*16*	4						*4*	3						*3*	6						*6*	11						*11*	14						*14*
		Proctor	Telegraph		16						*16*	2						*2*	10						*10*	10						*10*	9						*9*	15						*15*
		Telegraph	Spear		15						*15*	1						*1*	2						*2*	2						*2*	3						*3*	8						*8*
		Spear	Robinson		15						*15*	2						*2*	4						*4*	6						*6*	5						*5*	7						*7*
		Total			**61**				**1**		***62***	**9**						*9*	**19**						*19*	**24**						*24*	**28**						*28*	**44**						*44*
	Carson	Musser	Proctor			3					*3*										1				*1*		1				*1*		2				*2*		1				*1*
		Proctor	Telegraph			6					*6*		1					*1*		1					*1*		1				*1*		4				*4*		2				*2*
		Telegraph	Spear			6					*6*		2					*2*		1					*1*		2				*2*		1				*1*		1				*1*
		Spear	Robinson			6					*6*		2					*2*									2				*2*		1				*1*						
		Total				**21**					***21***		**5**					*5*		**2**					*2*		**6**				*6*		**8**				*8*		**4**				*4*
	Plaza	Musser	Proctor		9						*9*	8						*8*	9						*9*	6						*6*	8						*8*	7						*7*
		Proctor	Telegraph		16						*16*	2						*2*	9						*9*	10						*10*	10						*10*	14						*14*
		Telegraph	Spear		12						*12*	10						*10*	11						*11*	10						*10*	11						*11*	11						*11*
		Total			**37**						***37***	**20**						*20*	**29**						*29*	**26**						*26*	**29**						*29*	**32**						*32*
	Fall	Musser	Proctor		6						*6*	6						*6*	6						*6*	6						*6*	6						*6*	5						*5*
		Proctor	Telegraph		14						*14*	6						*6*	11						*11*	11						*11*	10						*10*	10						*10*
		Telegraph	Spear		8						*8*	1						*1*	1						*1*	1						*1*	1						*1*	1						*1*
		Spear	Robinson		5						*5*	1						*1*	2						*2*	2						*2*	2						*2*	1						*1*
		Total			**33**						***33***	**14**						*14*	**20**						*20*	**20**						*20*	**19**						*19*	**17**						*17*
E/W Streets	Musser	Nevada	Curry			11					*11*		7					*7*		7					*7*		7					*7*		11					*11*		4					*4*
		Curry	Carson		2					2	*4*	1						*1*	2						*2*	1						*1*	3						*3*							
		Plaza	Fall		8		2		2		*12*	8		1				*9*	9						*9*	8			1			*9*	9						*9*	8						*8*
		Fall	Stewart		6						*6*	6						*6*	6						*6*	6						*6*	5						*5*	5						*5*
		Total			**16**	**11**	**2**		**2**	**2**	***33***	**15**	**7**	**1**				*23*	**17**	**7**					*24*	**15**	**7**	**1**				*23*	**17**	**11**					*28*	**13**	**4**					*17*
	Proctor	Curry	Carson			16	2				*18*		1					*1*		4					*4*		9					*9*		7					*7*		4					*4*
		Carson	Plaza			14	2				*16*		3					*3*		1					*1*		10					*10*		14	1				*15*		12	1				*13*
		Plaza	Fall		10						*10*	9						*9*	9						*9*	7						*7*	9						*9*	6						*6*
		Fall	Stewart		8						*8*	6						*6*	8						*8*	8						*8*	8						*8*	6						*6*
		Total			**18**	**30**	**4**				***52***	**15**	**4**					*19*	**17**	**5**					*22*	**15**	**19**					*34*	**17**	**21**	**1**				*39*	**12**	**16**	**1**				*29*
	Telegraph	Nevada	Curry		7		1		1		*9*	6		1				*7*	6						*6*	6						*6*	6		1				*7*	5						*5*
		Curry	Carson			18	1				*19*		7					*7*		12					*12*		12					*12*		14					*14*		14					*14*
		Carson	Plaza		14				1		*15*	4						*4*	1						*1*	2						*2*	12						*12*	10						*10*
		Plaza	Fall		6						*6*	1						*1*	1						*1*	3						*3*	4						*4*	4						*4*
		Fall	Stewart		11						*11*																												*3*							*3*
		Total			**38**	**18**	**2**		**2**		***60***	**11**	**7**	**1**				*19*	**8**	**12**					*20*	**11**	**12**					*23*	**22**	**14**	**1**				*37*	**4**	**14**					*18*
	Spear	Nevada	Curry		15						*15*	10						*10*	9						*9*	13						*13*	14						*14*	14						*14*
		Curry	Carson		18		2				*20*	17						*17*	18						*18*	18						*18*	18						*18*	17						*17*
		Fall	Stewart		12						*12*																																			
		Total			**45**		**2**				***47***	**27**						*27*	**27**						*27*	**31**						*31*	**32**						*32*	**31**						*31*
Lots			2			56	4			4	*64*		6					*6*		9				3	*12*		10				3	*13*		10				3	*13*		18				2	*20*
			3		66						*66*	14						*14*	10						*10*	12						*12*	15						*15*	13						*13*
			5		88						*88*	26						*26*	37						*37*	44						*44*	53						*53*	51						*51*
			6		57						*57*	6						*6*	13						*13*	16						*16*	17						*17*	14						*14*
				A	16		1				*17*	8						*8*	14						*14*	16						*16*	16						*16*	12						*12*
				B	69		5				*74*	46						*46*	70			3			*73*	59			5			*64*	66		5				*71*	57		4				*61*
				C	55		4				*59*	53		1				*54*	56						*56*	56			3			*59*	53		1				*54*	47		2				*49*
			7	*Sub Total*	*140*		*10*				*150*	*107*		*1*				*108*	*140*			*3*			*143*	*131*			*8*			*139*	*135*		*6*				*141*	*116*		*6*				*122*
			Total		**351**	**56**	**14**			**4**	***425***	**153**	**6**	**1**				*160*	**200**	**9**		**3**			*215*	**203**	**10**		**8**			*224*	**220**	**10**		**6**			*239*	**194**	**18**		**6**			*220*
Total		NS Streets			*176*	*21*			*1*		*198*	*71*	*5*					*76*	*94*	*2*					*96*	*100*	*6*					*106*	*108*	*8*					*116*	*122*	*4*					*126*
		EW Street			*117*	*59*	*10*		*4*	*2*	*192*	*68*	*18*	*2*				*88*	*69*	*24*					*93*	*72*	*38*	*1*				*111*	*88*	*46*	*2*				*136*	*60*	*34*	*1*				*95*
		Lots			*351*	*56*	*14*			*4*	*425*	*153*	*6*	*1*				*160*	*200*	*9*	*3*			*3*	*215*	*203*	*10*	*8*			*3*	*224*	*220*	*10*	*6*			*3*	*239*	*194*	*18*	*6*			*2*	*220*
		Grand Total			***644***	***###***	***24***		***5***	***6***	***815***	***292***	***29***	***3***				***324***	***363***	***35***	***3***			***3***	***404***	***375***	***54***	***9***			***3***	***441***	***416***	***64***	***8***			***3***	***491***	***376***	***56***	***7***			***2***	***441***

TABLE B: Central Area Detailed Counts (2 of 2)

			Between		Inventory							1:00 PM							2:00 PM							3:00 PM							4:00 PM							5:00 PM						
					Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*
N/S Streets	Nevada	Musser	Proctor		12						*12*	12						*12*	12						*12*	12						*12*	10						*10*	7						*7*
		Proctor	Telegraph		12						*10*	10						*10*	10						*10*	8						*8*	9						*9*	8						*8*
		Telegraph	Spear		11						*11*	5						*5*	6						*6*	4						*4*	4						*4*							
		Spear	Robinson		10						*10*	3						*3*	2						*2*	2						*2*	4						*4*	3			2			*5*
		Total			**45**						***45***	**30**						*30*	**30**						*30*	**26**						*26*	**27**						***27***	**18**			**2**			*20*
	Curry	Musser	Proctor		15				1		*16*	15						*15*	12						*12*	15						*15*	18						*18*	10						*10*
		Proctor	Telegraph		16						*16*	12						*12*	11						*11*	9						*9*	13						*13*	3	9					*12*
		Telegraph	Spear		15						*15*	11						*11*	10						*10*	9						*9*	13						*13*	14						*14*
		Spear	Robinson		15						*15*	4						*4*	11						*11*	9						*9*	7						*7*	5						*5*
		Total			**61**				**1**		***62***	**42**						*42*	**44**						*44*	**42**						*42*	**51**						*51*	**32**	**9**					*41*
	Carson	Musser	Proctor			3					*3*		1					*1*									2					*2*		1					*1*		1					*1*
		Proctor	Telegraph			6					*6*		2					*2*		1					*1*		2					*2*		2					*2*		5					*5*
		Telegraph	Spear			6					*6*		2					*2*		2					*2*		4					*4*		3					*3*		3					*3*
		Spear	Robinson			6					*6*		1					*1*		2					*2*		3					*3*		4					*4*		3					*3*
		Total				**21**					***21***		**6**					*6*		**5**					*5*		**11**					*11*		**10**					*10*		**12**					*12*
	Plaza	Musser	Proctor		9						*9*	9						*9*	9						*9*	9						*9*	7						*7*	1						*1*
		Proctor	Telegraph		16						*16*	7						*7*	5						*5*	6						*6*		7					*7*	14						*14*
		Telegraph	Spear		12						*12*	13						*13*	13						*13*	11						*11*	12						*12*	5						*5*
		Total			**37**						***37***	**29**						*29*	**27**						*27*	**26**						*26*	**19**	**7**					*26*	**20**						*20*
	Fall	Musser	Proctor		6						*6*	4						*4*	6						*6*	6						*6*	5						*5*							
		Proctor	Telegraph		14						*14*	8						*8*	7						*7*	6						*6*	6						*6*	6						*6*
		Telegraph	Spear		8						*8*	1						*1*	1						*1*	1						*1*	1						*1*							
		Spear	Robinson		5						*5*	1						*1*	4						*4*	2						*2*	2						*2*	2						*2*
		Total			**33**						***33***	**14**						*14*	**18**						*18*	**15**						*15*	**14**						*14*	**8**						*8*
E/W Streets	Musser	Nevada	Curry			11					*11*		8					*8*		9					*9*		10					*10*		8					*8*		5					*5*
		Curry	Carson		2					2	*4*	1						*1*	1						*1*	1						*1*									1						*1*
		Plaza	Fall		8		2		2		*12*	7		1				*8*	8		1				*9*	8		1				*9*	7						*7*	2						*2*
		Fall	Stewart		6						*6*	6						*6*	6						*6*	5						*5*	4						*4*	1						*1*
		Total			**16**	**11**	**2**		**2**	**2**	***33***	**14**	**8**	**1**				*23*	**15**	**9**	**1**				*25*	**14**	**10**	**1**				*25*	**11**	**8**					*19*	**4**	**5**					*9*
	Proctor	Curry	Carson			16	2				*18*		11	1				*12*		12	1				*13*		11	1				*12*		14					*14*		14	1				*15*
		Carson	Plaza			14	2				*16*		6					*6*		6					*6*		3					*3*		6	1				*7*		13	1				*14*
		Plaza	Fall		10						*10*	8						*8*									8					*8*	7						*7*	3						*3*
		Fall	Stewart		8						*8*	6						*6*	7						*7*	7						*7*	7						*7*	3						*3*
		Total			**18**	**30**	**4**				***52***	**14**	**17**	**1**				*32*	**7**	**18**	**1**				*26*	**15**	**14**	**1**				*30*	**14**	**20**	**1**				*35*	**6**	**27**	**2**				*35*
	Telegraph	Nevada	Curry		7		1		1		*9*	4						*4*	4						*4*	4						*4*							*4*	3						*3*
		Curry	Carson			18	1				*19*		15	1				*16*		15					*15*		16					*16*		11					*11*		13					*13*
		Carson	Plaza		14				1		*15*	11						*11*	7						*7*	11						*11*	10						*10*	11						*11*
		Plaza	Fall		6						*6*	3						*3*	2						*2*	2						*2*	20						*2*	1						*1*
		Fall	Stewart		11						*11*	1						*1*	1						*1*	1						*1*															
		Total			**38**	**18**	**2**		**2**		***60***	**19**	**15**	**1**				*35*	**14**	**15**					*29*	**18**	**16**					*34*	**34**	**11**					*45*	**15**	**13**					*28*
	Spear	Nevada	Curry		15						*15*	14						*14*	13						*13*	14						*14*	13						*13*	6						*6*
		Curry	Carson		18		2				*20*	16						*16*	18						*18*	18						*18*	16						*16*	10						*10*
		Fall	Stewart		12						*12*																																				
		Total			**45**		**2**				***47***	**30**						*30*	**31**						*31*	**32**						*32*	**29**						*29*	**16**						*16*
Lots			2			56	4			4	*64*		21				4	*25*		18				4	*22*		17			3	*20*		12			2	*14*		12			1	*13*
			3		66						*66*	14						*14*	16						*16*	14						*14*	7						*7*	5						*5*
			5		88						*88*	45						*45*	43						*43*	41						*41*	32						*32*	28						*28*
			6		57						*57*	14						*14*	15						*15*	13						*13*	12						*12*	6						*6*
				A	16		1				*17*	16						*16*	13						*13*	13						*13*	13						*13*	7						*7*
				B	69		5				*74*	54		3				*57*	66		5				*71*	66		5				*71*	47		5				*52*	22		2				*24*
				C	55		4				*59*	54		2				*56*	50		1				*51*	48		1				*49*	43		1				*44*	23						*23*
			7	*Sub Total*	*140*		*10*				*150*	*124*		*5*				*129*	*129*		*6*				*135*	*127*		*6*				*133*	*103*		*6*				*109*	*52*		*2*				*54*
			Total		**351**	**56**	**14**			**4**	***425***	**197**	**21**	**5**			**4**	*227*	**203**	**18**	**6**			**4**	*231*	**195**	**17**	**6**		**3**	*221*	**154**	**12**	**6**		**2**	*174*	**91**	**12**	**2**		**1**	*106*
Total	NS Streets				*176*	*21*			*1*		*198*	*115*	*6*					*121*	*119*	*5*					*124*	*109*	*11*					*120*	*111*	*17*					*128*	*78*	*21*		*2*			*101*
	EW Street				*117*	*59*	*10*		*4*	*2*	*192*	*77*	*40*	*3*				*120*	*67*	*42*	*2*				*111*	*79*	*40*	*2*				*121*	*88*	*39*	*1*				*128*	*41*	*45*	*2*				*88*
	Lots				*351*	*56*	*14*			*4*	*425*	*197*	*21*	*5*			*4*	*227*	*203*	*18*	*6*			*4*	*231*	*195*	*17*	*6*		*3*	*221*	*154*	*12*	*6*		*2*	*174*	*91*	*12*	*2*		*1*	*106*
	Grand Total				***644***	***###***	***24***		***5***	***6***	***815***	***389***	***67***	***8***			***4***	***468***	***389***	***65***	***8***			***4***	***466***	***383***	***68***	***8***		***3***	***462***	***353***	***68***	***7***		***2***	***430***	***210***	***78***	***4***	***2***	***1***	***295***

TABLE C: South Area Detailed Counts (1 of 2)

			Between		Inventory							8:00 AM							9:00 AM							10:00 AM							11:00 AM							12:00 PM						
					Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*
North/South Streets	Nevada	5th	4th		10						*10*	1						*1*	6						*6*	6						*6*	7						*7*	8						*8*
		4th	3rd		9						*9*								1						*1*	2						*2*	4						*4*	5						*5*
		3rd	2nd		8						*8*	1						*1*								1						*1*								2						*2*
		2nd	King		8						*8*	1						*1*	1						*1*	3						*3*	4						*4*	5						*5*
		King	Musser		4	7					*11*	1						*1*	2						*2*	4						*4*	4						*4*	2						*2*
		Total			**39**	**7**					***46***	**4**						*4*	**10**						*10*	**16**						*16*	**19**						*19*	**22**						*22*
	Curry	5th	4th		9						*9*	3						*3*	7						*7*	9						*9*	9						*9*	4						*4*
		4th	3rd		10						*10*	10						*10*	7						*7*	7						*7*	9						*9*	10						*10*
		3rd	2nd		9						*9*	1						*1*	3						*3*	5						*5*	5						*5*	7						*7*
		2nd	King			13	1				*14*		4	1				*5*			1				*1*		7					*7*		9	1				*10*		8					*8*
		King	Musser			5					*5*										2				*2*		4					*4*		2					*2*		3					*3*
		Total			**28**	**18**	**1**				***47***	**14**	**4**	**1**				*19*	**17**		**3**				*20*	**21**	**11**					*32*	**23**	**11**	**1**				*35*	**21**	**11**					*32*
	Carson	5th	4th			2					*2*		1					*1*		3					*3*		3					*3*									2						*2*
		4th	3rd			3					*3*									3					*3*		2					*2*		2					*2*		3					*3*
		3rd	2nd			6					*6*		3					*3*		6					*6*		5					*5*		5					*5*		7					*7*
		Total				**11**					***11***		**4**					*4*		**12**					*12*		**10**					*10*		**7**					*7*		**12**					*12*
East/West Streets	5th	Nevada	Curry		15						*15*																																				
	4th	Nevada	Curry		14						*14*	2						*2*	7						*7*	6						*6*	9						*9*	11						*11*
		Curry	Carson			17		1			*18*		5		1			*6*		9		1			*10*		7		1			*8*		12		1			*13*		15					*15*
		Total			**14**	**17**		**1**			***32***	**2**	**5**		**1**			***8***	**7**	**9**		**1**			***17***	**6**	**7**		**1**			***14***	**9**	**12**		**1**			***22***	**11**	**15**					***26***
	2nd	Nevada	Curry		15						*15*	5						*5*	7						*7*	9						*9*	10						*10*	10						*10*
		Curry	Carson			12					*12*		1					*1*		4					*4*		5					*5*		10					*10*		10					*10*
		Total			**15**	**12**					***27***	**5**	**1**					*6*	**7**	**4**					*11*	**9**	**5**					*14*	**10**	**10**					*20*	**10**	**10**					*20*
	King	Nevada	Curry		21						*21*	18						*18*	18						*18*	20						*20*	20						*20*	15						*15*
Lot			1		88		2	6			*96*	22			3			*25*	53		1	3			*57*	64			4			*68*	72			5			*77*	80		1	6			*87*
			Total		**88**		**2**	**6**			***96***	**22**			**3**			*25*	**53**		**1**	**3**			*57*	**64**			**4**			*68*	**72**			**5**			*77*	**80**		**1**	**6**			*87*
Total	NS Streets				*67*	*36*	*1*				*104*	*18*	*8*	*1*				*27*	*27*	*12*	*3*				*42*	*37*	*21*					*58*	*42*	*18*	*1*				*61*	*43*	*23*					*66*
	EW Street				*65*	*29*		*1*			*95*	*25*	*6*		*1*			*32*	*32*	*13*		*1*			*46*	*35*	*12*		*1*			*48*	*39*	*22*		*1*			*62*	*36*	*25*					*61*
	Lots				*88*		*2*	*6*			*96*	*22*			*3*			*25*	*53*		*1*	*3*			*57*	*64*			*4*			*68*	*72*			*5*			*77*	*80*		*1*	*6*			*87*
	Grand Total				***220***	***65***	***3***	***7***			***295***	***65***	***14***	***1***	***4***			***84***	***112***	***25***	***4***	***4***			***145***	***136***	***33***		***5***			***174***	***153***	***40***	***1***	***6***			***200***	***159***	***48***	***1***	***6***			***214***

TABLE C: South Area Detailed Counts (2 of 2)

			Between		Inventory							1:00 PM							2:00 PM							3:00 PM							4:00 PM							5:00 PM						
					Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Special	*Total*
North/South Streets	Nevada	5th	4th		10						*10*	8						*8*	5						*5*	6						*6*	6						*6*	6						*6*
		4th	3rd		9						*9*	8						*8*	4						*4*	5						*5*	4						*4*	5						*5*
		3rd	2nd		8						*8*	5						*5*	2						*2*	1						*1*	1						*1*							
		2nd	King		8						*8*	6						*6*	7						*7*	6						*6*	7						*7*	5						*5*
		King	Musser		4	7					*11*	2						*2*	4						*4*	3						*3*	2						*2*	2						*2*
		Total			**39**	**7**					***46***	**29**						*29*	**22**						*22*	**21**						*21*	**20**						***20***	**18**						*18*
	Curry	5th	4th		9						*9*	8						*8*	8						*8*	9						*9*	9						*9*	9						*9*
		4th	3rd		10						*10*	10						*10*	10						*10*	9						*9*	10						*10*	11						*11*
		3rd	2nd		9						*9*	8						*8*	6						*6*	6						*6*	6						*6*	6						*6*
		2nd	King			13	1				*14*		7	1				*8*		8	1				*9*		11	1				*12*		11	1				*12*		10	1				*11*
		King	Musser			5					*5*		3					*3*		4					*4*		3					*3*		3					*3*		2					*2*
		Total			**28**	**18**	**1**				***47***	**26**	**10**	**1**				*37*	**24**	**12**	**1**				*37*	**24**	**14**	**1**				*39*	**25**	**14**	**1**				*40*	**26**	**12**	**1**				*39*
	Carson	5th	4th			2					*2*		2					*2*		2					*2*		2					*2*		1					*1*		2					*2*
		4th	3rd			3					*3*		2					*2*		3					*3*		2					*2*		2					*2*		2					*2*
		3rd	2nd			6					*6*		7					*7*		6					*6*		5					*5*		5					*5*		7					*7*
		Total				**11**					***11***		**11**					*11*		**11**					*11*		**9**					*9*		**8**					*8*		**11**					*11*
East/West Streets	5th	Nevada	Curry		15						*15*																																					
	4th	Nevada	Curry		14						*14*	10						*10*	9						*9*	10						*10*	11						*11*	10						*10*
		Curry	Carson			17		1			*18*		12					*12*		11					*11*		12					*12*		13		1			*14*		12		1			*13*
		Total			**14**	**17**		**1**			***32***	**10**	**12**					*22*	**9**	**11**					*20*	**10**	**12**					*22*	**11**	**13**		**1**			***25***	**10**	**12**		**1**			***23***
	2nd	Nevada	Curry		15						*15*	8						*8*	6						*6*	8						*8*	8						*8*	8						*8*
		Curry	Carson			12					*12*		11					*11*		10					*10*		9					*9*		11					*11*		7					*7*
		Total			**15**	**12**					***27***	**8**	**11**					*19*	**6**	**10**					*16*	**8**	**9**					*17*	**8**	**11**					*19*	**8**	**7**					*15*
	King	Nevada	Curry		21						*21*	16						*16*	20						*20*	21						*21*	18						*18*	12						*12*
Lot			1		88		2	6			*96*	81		2	6			*89*	74	3					*77*	74	4					*78*	68	4					*72*	74	4	2				*80*
			Total		**88**		**2**	**6**			***96***	**81**		**2**	**6**			*89*	**74**	**3**					*77*	**74**	**4**					*78*	**68**	**4**					*72*	**74**	**4**	**2**				*80*
Total	NS Streets				*67*	*36*	*1*				*104*	*55*	*21*	*1*				*77*	*46*	*23*	*1*				*70*	*45*	*23*	*1*				*69*	*45*	*22*	*1*				*68*	*44*	*23*	*1*				*68*
	EW Street				*65*	*29*		*1*			*95*	*34*	*23*					*57*	*35*	*21*					*56*	*39*	*21*					*60*	*37*	*24*		*1*			*62*	*30*	*19*		*1*			*50*
	Lots				*88*		*2*	*6*			*96*	*81*		*2*	*6*			*89*	*74*	*3*					*77*	*74*	*4*					*78*	*68*	*4*					*72*	*74*	*4*	*2*				*80*
	Grand Total				***220***	***65***	***3***	***7***			***295***	***170***	***44***	***3***	***6***			***223***	***155***	***47***	***1***				***203***	***158***	***48***	***1***				***207***	***150***	***50***	***1***	***1***			***202***	***148***	***46***	***3***	***1***			***198***

TABLE D -North Area Detailed Counts-Tuesday 9/24/2019 (1 of 2)

		Between		Inventory								Tuesday 9/24/2019 8:00 AM									Tuesday 9/24/2019 9:00 AM									Tuesday 9/24/2019 10:00 AM									Tuesday 9/24/2019 11:00 AM								
				Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti
N/S Streets	Nevada	Robinson	Caroline	7			1				1	9	1								1	11%	1							1	11%	2								2	22%	2								2	22%
		Caroline	Washington	8								8									0%									0%	1								1	13%	1								1	13%
		Washington	Ann	11								11	3							3	27%	4							4	36%	5								5	45%	5								5	45%
		Ann	Sophia	13								13									0%									0%										0%									0%
		Sophia	William	13								13	1							1	8%	1							1	8%	1								1	8%	2								2	15%
	Curry	Robinson	Washington	17				1	1			19	1							1	5%	3							3	16%	16								16	84%	12								12	63%
		Washington	Ann	7								7	1							1	14%	2							2	29%	1								1	14%	1								1	14%
		Ann	Sophia	11	3							14									0%	1							1	7%		3							3	21%		2							2	14%
		Sophia	William	8				1				9	3			1				4	44%	3			1				4	44%	4								4	44%	4								4	44%
	Carson	Robinson	Washington		2							2									0%		2						2	100%										0%									0%
		Washington	Ann		2							2									0%		2						2	100%		1							1	50%		2							2	100%
	Plaza	Robinson	Caroline		5				2			7		1						1	14%		2						2	29%									0%		1							1	14%
		Caroline	Washington		4				2			6									0%									0%										0%									0%
		Washington	Ann	13								13	2							2	15%	3							3	23%	1								1	8%	1								1	8%
		Ann	Sophia	11								11	6							6	55%	7							7	64%	8								8	73%	8								8	73%
		Sophia	William	5								5	1							1	20%	2							2	40%										0%	1								1	20%
E/W Street	Robinson	Nevada	Curry	9								9	1							1	11%	1							1	11%	2								2	22%	1								1	11%
		Curry	Carson	5								5									0%									0%										0%									0%
		Plaza	Fall						1	2		3									0%									0%										0%									0%
	Caroline	Carson	Plaza	6								6	1							1	17%	2							2	33%	1								1	17%	2								2	33%
	Washington	Nevada	Curry	6					2			8	1							1	13%									0%	2								2	25%	3								3	38%
		Carson	Plaza	7								7	1							1	14%	2							2	29%	2								2	29%	2								2	29%
	Ann	Nevada	Curry	11								11	2							2	18%	3							3	27%	1								1	9%	1								1	9%
		Curry	Carson	17								17	7							7	41%	8							8	47%	1								1	6%	1								1	6%
		Carson	Plaza	13		2		1	1			17	1							1	6%	3							3	18%	3								3	18%	4								4	24%
	Sophia	Nevada	Curry	10								10	3							3	30%	3							3	30%	4								4	40%	4								4	40%
		Curry	Carson	9								9	5							5	56%	5							5	56%	6								6	67%	7								7	78%
		Carson	Plaza	8								8	6							6	75%	5							5	63%	5								5	63%	7								7	88%
Lots			4	15		1						16	1							1	6%	2							2	13%	2								2	13%	2								2	13%
		NS Streets		*124*	*16*		*1*	*2*	*5*		*1*	*149*	*19*	*1*		*1*	*0*	*0*	*0*		*21*	14%	*27*	*6*		*1*				*34*	23%	*39*	*4*							*43*	29%	*37*	*5*							*42*	28%
		EW Street		*101*		*2*		*3*	*2*		*2*	*110*	*28*				*0*	*0*	*0*		*28*	25%	*32*							*32*	29%	*27*								*27*	25%	*32*								*32*	29%
		Lots		*15*		*1*						*16*	*1*				*0*	*0*	*0*		*1*	6%	*2*							*2*	13%	*2*								*2*	13%	*2*								*2*	13%
			Total	***240***	***16***	***3***	***1***	***5***	***7***		***3***	***275***	***48***	***1***		***1***	***0***	***0***	***0***		***50***	18%	***61***	***6***		***1***				***68***	25%	***68***	***4***							***72***	26%	***71***	***5***							***76***	28%

TABLE D -North Area Detailed Counts-Tuesday 9/24/2019 (2 of 2)

		Between		Inventory							Tuesday 9/24/2019 12:00 PM								Tuesday 9/24/2019 1:00 PM								Tuesday 9/24/2019 2:00 PM								Tuesday 9/24/2019 3:00 PM								Tuesday 9/24/2019 4:00 PM								Tuesday 9/24/2019 5:00 PM							
				Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti
N/S Streets	Nevada	Robinson	Caroline	7			1				1	9	9									9	100%	2								2	22%	2								2	22%	2								2	22%	1								1	11%	4								4	44%
		Caroline	Washington	8								8	2								2	25%	2								2	25%	2								2	25%	2								2	25%									0	0%	3								3	38%
		Washington	Ann	11								11	1								1	9%	5								5	45%	4								4	36%	4								4	36%	5								5	45%									0	0%
		Ann	Sophia	13								13										0	0%								0	0%								0	0%								0	0%	1								1	8%									0	0%
		Sophia	William	13								13	1								1	8%	2								2	15%	2								2	15%	2								2	15%	2								2	15%	2								2	15%
	Curry	Robinson	Washington	17				1	1			19	9									9	47%	13								13	68%	11								11	58%	10								10	53%	14								14	74%	5								5	26%
		Washington	Ann	7								7	1								1	14%									0	0%									0%									0%									0%									0%
		Ann	Sophia	11	3							14		2							2	14%	1	1							2	14%	1	2							3	21%	2	2							4	29%	1								1	7%									0	0%
		Sophia	William	8				1				9	4								4	44%	3								3	33%	3								3	33%	2								2	22%	4								4	44%	6								6	67%
	Carson	Robinson	Washington		2							2		2							2	100%		1							1	50%		1							1	50%	2								0	0%									0	0%		2							2	100%
		Washington	Ann		2							2		2							2	100%		3							3	150%		4							4	200%		4							4	200%		4							4	200%		3							3	150%
	Plaza	Robinson	Caroline		5			2				7		6							6	86%		1							1	14%									0%									0%		2							2	29%		2							2	29%
		Caroline	Washington		4			2				6										0%									0%									0%		1							1	17%		1							1	17%									0%
		Washington	Ann	13								13	4								4	31%	4								4	31%	4								4	31%	3								3	23%	1								1	8%	3								3	23%
		Ann	Sophia	11								11	1								1	9%	7								7	64%	7								7	64%	6								6	55%									0%	5									5	45%
		Sophia	William	5								5	6								6	120%	1								1	20%									0%	1								1	20%	1								1	20%									0%
E/W Street	Robinson	Nevada	Curry	9								9	1								1	11%	2								2	22%	1								1	11%	1								1	11%	2								2	22%	2								2	22%
		Curry	Carson	5								5										0%									0%									0%									0%									0%									0%
		Plaza	Fall						1	2		3										0%									0%									0%									0%									0%									0%
	Caroline	Carson	Plaza	6								6	4								4	67%	1								1	17%	1								1	17%									0%	2								2	33%									0%
	Washington	Nevada	Curry	6				2				8	1								1	13%	2								2	25%	1								1	13%	2								2	25%	2								2	25%	2								2	25%
		Carson	Plaza	7								7	3								3	43%	1								1	14%	2								2	29%	3								3	43%	1								1	14%	2								2	29%
	Ann	Nevada	Curry	11								11	2								2	18%	1								1	9%									0%									0%	1								1	9%	2								2	18%
		Curry	Carson	17								17	2								2	12%	2								2	12%									0%	1								1	6%	1								1	6%	6								6	35%
		Carson	Plaza	13		2		1	1			17	4								4	24%	5								5	29%	4								4	24%	4								4	24%	3								3	18%	4								4	24%
	Sophia	Nevada	Curry	10								10	4								4	40%	4								4	40%	3								3	30%	2								2	20%	3								3	30%	2								2	20%
		Curry	Carson	9								9	6								6	67%	5								5	56%	4								4	44%	4								4	44%	5								5	56%	3								3	33%
		Carson	Plaza	8								8	4								4	50%	7								7	88%	6								6	75%	7								7	88%	7								7	88%	2								2	25%
Lots			4	15		1						16	2		1						3	19%	1								1	6%									0%	1								1	6%	2								2	13%	1								1	6%
		NS Streets		124	16		1	2	5		1	149	38	12							50	34%	40	6							46	31%	36	7							43	29%	36	7							41	28%	30	7							37	25%	28	7							35	23%
		EW Street		101		2		3	2		2	110	31								31	28%	30								30	27%	22								22	20%	24								24	22%	27								27	25%	25								25	23%
		Lots		15		1						16	2		1						3	19%	1								1	6%									0%	1								1	6%	2								2	13%	1								1	6%
			Total	***240***	***16***	***3***	***1***	***5***	***7***		***3***	***275***	***71***	***12***	***1***						***84***	***31%***	***71***	***6***							***77***	***28%***	***58***	***7***							***65***	***24%***	***61***	***7***							***66***	***24%***	***59***	***7***							***66***	***24%***	***54***	***7***							***61***	***22%***

TABLE E - North Area Detailed Counts-Tuesday 9/26/2019 (1 of 2)

		Between		Inventory								Thursday 9/26/2019 8:00 AM									Thursday9/25/2019 9:00 AM									Thursday 9/25/2019 10:00 AM									Thursday 9/25/2019 11:00 AM									Thursday 9/25/2019 12:00 PM								
				Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti
N/S Streets		Robinson	Caroline	7			1				1	9	1								1	11%	1								1	11%	2								2	22%	2								2	22%	3								3	33%
		Caroline	Washington	8								8	1								1	13%	1								1	13%	2								2	25%	2								2	25%	3								3	38%
	Nevada	Washington	Ann	11								11	1								1	9%	1								1	9%	1								1	9%	1								1	9%	2								2	18%
		Ann	Sophia	13								13										0%	5								5	38%	4								4	31%	4								4	31%	3								3	23%
		Sophia	William	13								13	1								1	8%	1								1	8%	2								2	15%	3								3	23%	3								3	23%
		Robinson	Washington	17				1	1			19	3								3	16%	6								6	32%	8								8	42%	7								7	37%	7								7	37%
	Curry	Washington	Ann	7								7										0%	8								8	114%	7								7	100%	10								10	143%	4								4	57%
		Ann	Sophia	11	3							14										0%	1	2								3	21%	2	2							4	29%	4								4	29%	2								2	14%
		Sophia	William	8				1				9	6								6	67%	3								3	33%	4								4	44%	3								3	33%	5								5	56%
	Carson	Robinson	Washington		2							2										0%		3							3	150%		3							3	150%		3							3	150%		3							3	150%
		Washington	Ann		2							2		1							1	50%		3							3	150%		3							3	150%		3							3	150%		3							3	150%
		Robinson	Caroline		5				2			7		1							1	14%			1						1	14%			1						1	14%										0%									
		Caroline	Washington		4				2			6										0%	3								3	50%	4								4	67%		1							1	17%	1	2							3	50%
	Plaza	Washington	Ann	13								13	2								2	15%									0%	1								1	8%	2								2	15%	2								2	15%
		Ann	Sophia	11								11	6								6	55%	2								2	18%	6								6	55%	8								8	73%	8								8	73%
		Sophia	William	5								5										0%	1								1	20%	2								2	40%	1								1	20%	1								1	20%
E/W Street		Nevada	Curry	9								9	1								1	11%	1								1	11%	2								2	22%	3								3	33%	1								1	11%
	Robinson	Curry	Carson	5								5										0%									0%									0%	2								2	40%	4								4	80%
		Plaza	Fall						1	2		3										0%									0%									0%									0%									0%
	Caroline	Carson	Plaza	6								6										0%	2								2	33%	3								3	50%									0%									0%
	Washington	Nevada	Curry	6				2				8	1								1	13%	2								2	25%	3								3	38%	2								2	25%	3								3	38%
		Carson	Plaza	7								7	1								1	14%									0%	1								1	14%	1								1	14%	3								3	43%
		Nevada	Curry	11								11	2								2	18%									0%									0%	1								1	9%	2								2	18%
	Ann	Curry	Carson	17								17	2								2	12%									0%									0%	1								1	6%									0%
		Carson	Plaza	13		2		1	1			17	3								3	18%									0%									0%	9								9	53%	10								10	59%
		Nevada	Curry	10								10										0%	5								5	50%	6								6	60%	4								4	40%	4								4	40%
	Sophia	Curry	Carson	9								9	1								1	11%									0%									0%	1								1	11%									0%
		Carson	Plaza	8								8	2								2	25%	2								2	25%	3								3	38%	4								4	50%	6								6	75%
Lots			4	15		1						16										0%									0%	2								2	13%									0%									0%
		NS Streets		124	16		1	2	5		1	149	21	2							23	15%	33	8	1						42	28%	45	8	1						54	36%	47	8							55	37%	44	8							52	35%
		EW Street		101		2		3	2		2	110	13								13	12%	12								12	11%	18								18	16%	28								28	25%	33								33	30%
		Lots		15		1						16										0%									0%	2								2	13%									0%									0%
		Total		***240***	***16***	***3***	***1***	***5***	***7***		***3***	***275***	***34***	***2***							***36***	13%	***45***	***8***	***1***						***54***	20%	***65***	***8***	***1***						***74***	27%	***75***	***8***							***83***	30%	***77***	***8***							***85***	31%

TABLE E - North Area Detailed Counts-Tuesday 9/26/2019 (2 of 2)

		Between		Inventory								Thursday 9/25/2019 1:00 PM									Thursday 9/25/2019 2:00 PM									Thursday 9/25/2019 3:00 PM									Thursday 9/25/2019 4:00 PM									Thursday 9/25/2019 5:00 PM								
				Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti
N/S Streets	Nevada	Robinson	Caroline	7			1				1	9	6									6	67%	6								6	67%	4								4	44%	1								1	11%									0%
		Caroline	Washington	8								8	2								2	25%	2								2	25%	1								1	13%									0%									0%
		Washington	Ann	11								11	3								3	27%	3								3	27%	2								2	18%	1								1	9%									0%
		Ann	Sophia	13								13	3								3	23%	3								3	23%	3								3	23%	2								2	15%	1								1	8%
		Sophia	William	13								13	4								4	31%	4								4	31%	3								3	23%	2								2	15%	1								1	8%
	Curry	Robinson	Washington	17				1	1			19	8								8	42%	7								7	37%	5								5	26%									0%	1								1	5%
		Washington	Ann	7								7	7								7	100%	3								3	43%	1								1	14%									0%									0%
		Ann	Sophia	11	3							14	6								6	43%	5								5	36%	2								2	14%	1								1	7%	1								1	7%
		Sophia	William	8				1				9	4								4	44%	3								3	33%	2								2	22%	5								5	56%	6								6	67%
	Carson	Robinson	Washington		2							2		3							3	150%		2							2	100%		1							1	50%									0%									0%
		Washington	Ann		2							2		3							3	150%		2							2	100%									0%		1								1	50%									0%
	Plaza	Robinson	Caroline		5				2			7		2							2	29%	1	1							2	29%		3							3	43%		1							1	14%									0%
		Caroline	Washington		4				2			6		2							2	33%	1	1							2	33%		3							3	50%		1							1	17%									0%
		Washington	Ann	13								13	4								4	31%	4								4	31%	3								3	23%	3								3	23%	3								3	23%
		Ann	Sophia	11								11	5								5	45%	5								5	45%	4								4	36%	3								3	27%	5								5	45%
		Sophia	William	5								5	1								1	20%	1								1	20%	1								1	20%	1								1	20%	1								1	20%
E/W Street	Robinson	Nevada	Curry	9								9	3								3	33%	3								3	33%	2								2	22%	1								1	11%	2								2	22%
		Curry	Carson	5								5	3								3	60%	3								3	60%									0%									0%									0%
		Plaza	Fall						1	2		3									0%									0%									0%									0%									0%
	Caroline	Carson	Plaza	6								6									0%									0%									0%									0%									0%
	Washington	Nevada	Curry	6				2				8	3								3	38%	3								3	38%	2								2	25%									0%									0%
		Carson	Plaza	7								7	1								1	14%	1								1	14%	1								1	14%	3								3	43%									0%
	Ann	Nevada	Curry	11								11	3								3	27%	3								3	27%	1								1	9%									0%									0%
		Curry	Carson	17								17	3								3	18%									0%	4								4	24%	1								1	6%	1								1	6%
		Carson	Plaza	13		2		1	1			17	5								5	29%	5								5	29%	6								6	35%	3								3	18%	3								3	18%
	Sophia	Nevada	Curry	10								10									0%	4								4	40%	4								4	40%	4								4	40%	4								4	40%
		Curry	Carson	9								9									0%									0%	2								2	22%	2								2	22%	2								2	22%
		Carson	Plaza	8								8	7								7	88%	6								6	75%	4								4	50%	2								2	25%	3								3	38%
Lots		4		15		1						16	2								2	13%	2								2	13%	1								1	6%									0%	1								1	6%
		NS Streets		124	16		1	2	5		1	149	53	10							63	42%	48	6							54	36%	31	7							38	26%	19	3							22	15%	19								19	13%
		EW Street		101		2		3	2		2	110	28								28	25%	28								28	25%	26								26	24%	16								16	15%	15								15	14%
		Lots		15		1						16	2								2	13%											1								1	6%									0%	1								1	6%
		Total		**240**	**16**	**3**	**1**	**5**	**7**		**3**	**275**	**83**	**10**							**93**	34%	**78**	**6**							**84**	31%	**58**	**7**							**65**	24%	**35**	**3**							**38**	14%	**35**								**35**	13%

TABLE F -Central Area Detailed Counts-Tuesday 9/24/2019 (1 of 2)

		Between		Inventory									Tuesday 9/24/2019 8:00 AM										Tuesday 9/24/2019 9:00 AM										Tuesday 9/24/2019 10:00 AM										Tuesday 9/24/2019 11:00 AM										Tuesday 9/24/2019 12:00 PM									
				Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total,	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total,	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total,	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total,	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total,	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total,	% Uti
N/S Streets	Nevada	Musser	Proctor	12								12	10								10	83%	10								10	83%	11								11	92%	10								10	83%	8								8	67%
		Proctor	Telegraph	12								12	10								10	83%	7								7	58%	8								8	67%	10								10	83%	7								7	58%
		Telegraph	Spear	11								11	6								6	55%	6								7	64%	7								7	64%	7								7	64%	7								7	64%
		Spear	Robinson	6			2					8				2					2	25%	1			2					3	38%	1								2	25%				2					2	25%	1			2					3	38%
	Curry	Musser	Proctor		15			1				16		2							2	13%									0%		6							6	38%		9							9	56%		11							11	69%
		Proctor	Telegraph		16							16		11							11	69%		12							12	75%		13							13	81%		15							15	94%		14							14	88%
		Telegraph	Spear		15							15		4							4	27%		8							8	53%		8							8	53%		9							9	60%		11							11	73%
		Spear	Robinson		15							15		1							1	7%		1							1	7%		1							1	7%		2							2	13%		2							2	13%
	Carson	Musser	Proctor		3				1			4		1							1	25%		1					1		2	50%		1				1			2	50%		5							5	125%		2							2	50%
		Proctor	Telegraph		3						3	6		4						1	5	83%		2						1	3	50%		2					1		3	50%		3					1		4	67%		2					1		3	50%
		Telegraph	Spear		5							5		1							1	20%		1							1	20%		1							1	20%		4							4	80%		4							4	80%
		Spear	Robinson		6							6		1							1	17%		1							1	17%									0%		3							3	50%									0%
	Plaza	Musser	Proctor	9								9	8								8	89%	9								9	100%	9								9	100%	8								8	89%	8								8	89%
		Proctor	Telegraph		16			1				17		9							9	53%		9							9	53%		10							10	59%		10							10	59%		9							9	53%
		Telegraph	Spear	12						2		14	11							2	13	93%	10						2		12	86%	10						1		11	79%	9						2		11	79%	11						2		13	93%
	Fall	Musser	Proctor	6								6	5								5	83%	5								5	83%	6								6	100%	5								5	83%	6								6	100%
		Proctor	Telegraph	12								12	3								3	25%	4								4	33%	6								6	50%	5								5	42%	4								4	33%
		Telegraph	Spear	8								8	1								1	13%	1								1	13%	1								1	13%	1								1	13%	1								1	13%
		Spear	Robinson	5								5	1								1	20%	1								1	20%	1								1	20%	2								2	40%	3								3	60%
E/W Street	Musser	Nevada	Curry		10							10		3							3	30%		3							3	30%		4							4	40%		6							6	60%		6							6	60%
		Curry	Carson	2						2		4	1								1	25%									0%	1									0%	1								1	25%									0%
		Plaza	Fall	8		2		2				12	7		2		1				10	83%	7		1	1					9	75%	8		1						9	75%	10		1						11	92%	8		1	1					10	83%
		Fall	Stewart	6								6	6								6	100%	6								6	100%	6								6	100%	4								4	67%	5								5	83%
	Proctor	Curry	Carson		16	2						18		3							3	17%		4							4	22%		8							8	44%		15							15	83%		13							13	72%
		Carson	Plaza		14	2						16		10							10	63%		4							4	25%		3							3	19%		7							7	44%		10							10	63%
		Plaza	Fall	10								10	5								5	50%	5								5	50%	6								6	60%	9								9	90%	7								7	70%
		Fall	Stewart	8								8	2								2	25%	3								3	38%	5								5	63%	7								7	88%	7								7	88%
	Telegraph	Nevada	Curry	7		1	2					10	5								5	50%	4								4	40%	7		1	1					9	90%	6								6	60%	6								6	60%
		Curry	Carson		17	1						18		12							12	67%		14							14	78%		15							15	83%		12							12	67%		14							14	78%
		Carson	Plaza		14			1				15		3							3	20%			3						3	20%		3							3	20%		4							4	27%		7							7	47%
		Plaza	Fall	5					1			6	2								2	33%									0%	3									3	50%	3								3	50%	2								2	33%
		Fall	Stewart	11								11	0									0%									0%									0%	1								1	9%									0%
	Spear	Nevada	Curry	14								14	13								13	93%									0%	10								10	71%	11								11	79%	11								11	79%
		Curry	Carson		18	2						20		11	1						12	60%		11							11	55%		11							11	55%		11							11	55%		16							16	80%
		Fall	Stewart	12								12									0%									0%									0%	1								1	8%	1								1	8%
Lots		2		26	53	6				2	6	93	24	15	3					4	46	49%	26	14	3				4		47	51%	26	14	2			4			46	49%	24	9	1		1	5			40	43%	24	12					1	3	40	43%
		3		66								66	7								7	11%	7								7	11%	7								7	11%	6								6	9%	8								8	12%
		5		88								88	23								23	26%									0%	37								37	42%	32								32	36%	34								34	39%
		6		57								57	13								13	23%	16								16	28%	19								19	33%	17								17	30%	9								9	16%
	7		A	16		1						17	13								13	76%									0%	15								15	88%	15								15	88%	14								14	82%
			B	69		5						74	67		4						71	96%	67		2						69	93%	67		1						68	92%	64		5						69	93%	57		4						61	82%
			C	55		5						60	53		2						55	92%	55		2						57	95%	55		1						56	93%	53		3						54	93%	51		3						54	90%
			Sub Total	*140*		*11*						*151*	*133*		*6*						*139*	*92%*	*122*		*4*						*126*	*83%*	*137*		*2*						*139*	*92%*	*132*		*8*						*140*	*93%*	*122*		*7*						*129*	*85%*
		NS Streets		*93*	*94*		*2*	*2*	*1*		*5*	*197*	*55*	*34*		*2*				*3*	*94*	*48%*	*54*	*35*		*2*		*1*	*3*		*95*	*48%*	*60*	*42*		*2*		*1*	*2*		*107*	*54%*	*57*	*60*		*2*			*3*		*122*	*62%*	*56*	*55*		*2*			*3*		*116*	*59%*
		EW Street		*83*	*89*	*10*		*5*	*1*		*2*	*190*	*41*	*42*	*3*		*1*				*87*	*46%*	*25*	*36*	*4*		*1*				*66*	*35%*	*45*	*44*	*2*		*1*				*92*	*48%*	*53*	*55*	*1*						*109*	*57%*	*47*	*66*	*1*		*1*				*115*	*61%*
		Lots		*377*	*53*	*17*				*2*	*6*	*455*	*200*	*15*	*9*					*4*	*228*	*50%*	*171*	*14*	*4*	*3*			*4*		*196*	*43%*	*226*	*14*	*4*				*4*		*248*	*55%*	*211*	*9*	*9*			*1*	*5*		*235*	*52%*	*197*	*12*	*7*			*1*	*3*		*220*	*48%*
		Grand Total		***553***	***236***	***27***	***2***	***7***	***2***	***2***	***13***	***842***	***296***	***91***	***12***	***2***	***1***			***7***	***409***	*49%*	***250***	***85***	***8***	***5***	***1***	***1***	***7***	***357***	*42%*	***331***	***100***	***6***	***2***	***1***	***1***	***6***	***447***	*53%*	***321***	***124***	***10***	***2***		***1***	***8***	***466***	*55%*	***300***	***133***	***8***	***2***	***1***		***1***	***6***	***451***	*54%*

TABLE F -Central Area Detailed Counts-Tuesday 9/24/2019 (2 of 2)

		Between		Inventory									Tuesday 9/24/2019 1:00 PM										Tuesday 9/24/2019 2:00 PM										Tuesday 9/24/2019 3:00 PM										Tuesday 9/24/2019 4:00 PM										Tuesday 9/24/2019 5:00 PM									
				Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total,	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total,	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total,	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total,	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total,	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total,	% Uti
N/S Streets	Nevada	Musser	Proctor	12								12	10								10	83%	11								11	92%	11								11	92%	8								8	67%	2								2	17%
		Proctor	Telegraph	12								12	9								9	75%	10								10	83%	8								8	67%	7								7	58%	3								3	25%
		Telegraph	Spear	11								11	7								7	64%	6								6	55%	5								5	45%	4								4	36%	4								4	36%
		Spear	Robinson	6			2					8	1			2					3	38%	1			2					3	38%				2					2	25%	2			2					4	50%	6			2					8	100%
	Curry	Musser	Proctor		15			1				16		6							6	38%		8							8	50%		4							4	25%		8							8	50%		12							12	75%
		Proctor	Telegraph		16							16		16							16	100%		9							9	56%		8							8	50%		8							8	50%		8							8	50%
		Telegraph	Spear		15							15		12							12	80%		10							10	67%		3							3	20%		5							5	33%		5							5	33%
		Spear	Robinson		15							15		5							5	33%		2							2	13%		3							3	20%		5							5	33%		2							2	13%
	Carson	Musser	Proctor		3				1			4		1							1	25%		2							2	50%		1							1	25%		2							2	50%		1							1	25%
		Proctor	Telegraph		3						3	6		2							2	33%								1	1	17%		1							1	17%		2							2	33%		2						1	3	50%
		Telegraph	Spear		5							5		1							1	20%		4							4	80%		2							2	40%		1							1	20%		3							3	60%
		Spear	Robinson		6							6		4							4	67%		3							3	50%										0%									0%		1							1	17%
	Plaza	Musser	Proctor	9								9	9								9	100%	7								7	78%	9								9	100%	6								6	67%	4								4	44%
		Proctor	Telegraph		16			1				17		11							11	65%		11							11	65%		8			1				9	47%		8							8	53%		9							9	53%
		Telegraph	Spear	12							2	14	12							1	13	93%	10							1	11	79%	12							1	13	93%	12							1	13	93%	10							1	11	79%
	Fall	Musser	Proctor	6								6	6								6	100%	5								5	83%	6								6	100%	4								4	67%	1								1	17%
		Proctor	Telegraph	12								12	2								2	17%	1								1	8%	3								3	25%	2								2	17%	3								3	25%
		Telegraph	Spear	8								8	1								1	13%	1								1	13%	1								1	13%									0%									0%
		Spear	Robinson	5								5	1								1	20%	1								1	20%	2								2	40%	2								2	40%	1								1	20%
E/W Street	Musser	Nevada	Curry		10							10		3							3	30%		5							5	50%		3							3	30%		3							3	30%		3							3	30%
		Curry	Carson	2						2		4										0%	2								2	50%	1								1	25%	1								1	25%										0%
		Plaza	Fall	8		2	2					12	6		1						7	58%	5		1	1					7	58%	7			2					9	75%	7		1	2					10	83%	3								3	25%
		Fall	Stewart	6								6	5								5	83%	5								5	83%	6								6	100%	1								1	17%	1								1	17%
	Proctor	Curry	Carson		16	2						18		10							10	56%		9							9	50%		11							11	61%		15							15	83%		11							11	61%
		Carson	Plaza		14	2						16		12							12	75%		11							11	69%		12							12	75%		10							10	63%		10							10	63%
		Plaza	Fall	10								10	6								6	60%	6								6	60%	7								7	70%	4								4	40%	2								2	20%
		Fall	Stewart	8								8	5								5	63%	5								5	63%	5								5	63%	2								2	25%	1								1	13%
	Telegraph	Nevada	Curry	7		1	2					10	7		1	1					9	90%	3								3	30%	2								2	20%	2								2	20%	3								3	30%
		Curry	Carson		17	1						18		12							12	67%		13							13	72%		13							13	72%		12							12	67%		12							12	67%
		Carson	Plaza		14			1				15		8							8	53%		7							7	47%		11							11	73%		8							8	53%		11							11	73%
		Plaza	Fall	5				1				6	4								4	67%	4								4	67%	4								4	67%	2								2	33%	2								2	33%
		Fall	Stewart	11								11										0%										0%										0%	1								1	9%										0%
	Spear	Nevada	Curry	14								14	13								13	93%	2								2	14%	8								8	57%	7								7	50%	7								7	50%
		Curry	Carson		18	2						20		10							10	50%		10							10	50%		9							9	45%		9							9	45%		6							6	30%
		Fall	Stewart	12								12	1								1	8%	1								1	8%	1								1	8%	1								1	8%	1								1	8%
Lots			2	26	53	6				2	6	93	24	17	2				1	2	46	49%	23	24	1				1	5	54	58%	23	13	4				5		45	48%	21	5					5		31	33%	18	14					1	6	39	42%
			3	66								66	7								7	11%	7	7							14	21%	9								9	14%	11								11	17%	4								4	6%
			5	88								88	32								32	36%	31								31	35%	33								33	38%	31								31	35%	21								21	24%
			6	57								57	12								12	21%	12								12	21%	12								12	21%	8								8	14%	3								3	5%
	7		A	16		1						17	14								14	82%	14								14	82%	14								14	82%	12								12	71%	5								5	29%
			B	69		5						74	65		5						70	95%	64		5						69	93%	59		5						64	86%	52		5						57	77%	18		1						19	26%
			C	55		5						60	48		4						52	87%	49		4						53	88%	47		2						49	82%	44		1						45	75%	16								16	27%
			Sub Total	*140*		*11*						*151*	*127*		*9*						*136*	90%	*127*		*9*						*136*	90%	*120*		*7*						*127*	84%	*108*		*6*						*114*	75%	*39*		*1*						*40*	26%
			NS Streets	*93*	*94*		*2*	*2*	*1*		*5*	*197*	*58*	*58*		*2*				*1*	*119*	60%	*53*	*49*		*2*				*2*	*106*	54%	*57*	*30*		*2*			*1*	*90*	46%	*47*	*39*		*2*	*1*		*1*	*90*	46%	*34*	*43*		*2*			*2*	*81*	41%
			EW Street	*83*	*89*	*10*		*5*	*1*		*2*	*190*	*47*	*55*	*2*		*1*				*105*	55%	*33*	*55*	*1*		*1*				*90*	47%	*41*	*59*			*2*			*102*	54%	*28*	*57*	*1*		*2*			*88*	46%	*20*	*53*						*73*	38%
			Lots	*377*	*53*	*17*				*2*	*6*	*455*	*202*	*17*	*11*				*1*	*2*	*233*	51%	*200*	*31*	*10*				*1*	*5*	*247*	54%	*197*	*13*	*11*				*5*	*226*	50%	*179*	*5*	*6*				*5*	*195*	43%	*85*	*14*	*1*				*1*	*6*	*107*	24%
			Grand Total	***553***	***236***	***27***	***2***	***7***	***2***	***2***	***13***	***842***	***307***	***130***	***13***	***2***	***1***		***1***	***3***	***457***	54%	***286***	***135***	***11***	***2***	***1***		***1***	***7***	***443***	53%	***295***	***102***	***11***	***2***	***2***		***6***	***418***	50%	***254***	***101***	***7***	***2***	***3***		***6***	***373***	44%	***139***	***110***	***1***	***2***			***1***	***8***	***261***	31%

TABLE G - Central Area Detailed Counts-Tuesday 9/26/2019 (1 of 2)

		Between		Inventory									Thursday 9/26/2019 8:00 AM										Thursday9/25/2019 9:00 AM										Thursday 9/25/2019 10:00 AM										Thursday 9/25/2019 11:00 AM										Thursday 9/25/2019 12:00 PM									
				Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti
N/S Streets	Nevada	Musser	Proctor	12								12	12								12	100%	11								11	92%	12								12	100%	11			1					12	100%	11								11	92%
		Proctor	Telegraph	12								12	10								10	83%	10								10	83%	9								9	75%	9								9	75%	9								9	75%
		Telegraph	Spear	11								11	1								1	9%	5								5	45%	7								7	64%	6								6	55%	6								6	55%
		Spear	Robinson	6			2					8	1			2					3	38%	2			1					3	38%	3			2					5	63%	2			1					3	38%	1				2				3	38%
	Curry	Musser	Proctor		15			1				16		1							1	6%		5							5	31%		12							12	75%		10							10	63%		14							14	88%
		Proctor	Telegraph		16							16		7			1				8	50%		7							7	44%		9							9	56%		13							13	81%		16							16	100%
		Telegraph	Spear		15							15		2							2	13%		6							6	40%		7							7	47%		7							7	47%		10							10	67%
		Spear	Robinson		15							15										0%		2							2	13%		2			1				3	20%	1								1	7%		7							7	47%
	Carson	Musser	Proctor		3				1			4										0%										0%										0%		1							1	25%		3							3	75%
		Proctor	Telegraph		3						3	6		1							1	17%										0%										0%		3						1	4	67%		1							1	17%
		Telegraph	Spear		5							5		2							2	40%		2							2	40%		2							2	40%		2							2	40%		4							4	80%
		Spear	Robinson		6							6										0%										0%		4							4	67%		1							1	17%		3							3	50%
	Plaza	Musser	Proctor	9								9	9								9	100%	9								9	100%	9								9	100%	8								8	89%	9								9	100%
		Proctor	Telegraph		16			1				17		3							3	18%										0%										0%		7							7	41%		5						1	6	35%
		Telegraph	Spear	12							2	14	12								12	86%	11								11	79%	12						1	13	93%	12							1	13	93%	12							2	14	100%
	Fall	Musser	Proctor	6								6	6								6	100%	6								6	100%	6								6	100%	6								6	100%	5								5	83%
		Proctor	Telegraph	12								12	1								1	8%	1								1	8%	10								10	83%	8								8	67%	8								8	67%
		Telegraph	Spear	8								8	1								1	13%	1								1	13%	1								1	13%	1								1	13%	1								1	13%
		Spear	Robinson	5								5	1								1	20%	1								1	20%	2								2	40%	2								2	40%		2							2	40%
E/W Street	Musser	Nevada	Curry		10							10		6							6	60%		6							6	60%		5							5	50%		6							6	60%		8							8	80%
		Curry	Carson	2							2	4									0%										0%	2						1	3	75%	2						1	3	75%	1								1	25%
		Plaza	Fall	8		2		2				12	8								8	67%	8								8	67%	8		1				1	10	83%	8		2		1				11	92%	5		1						6	50%
		Fall	Stewart	6								6	6								6	100%	6								6	100%	6								6	100%	5								5	83%	5								5	83%
	Proctor	Curry	Carson		16	2						18		3							3	17%		8							8	44%		11							11	61%		14							14	78%		17							17	94%
		Carson	Plaza		14	2						16		5							5	31%		6							6	38%		11							11	69%		9							9	56%		8							8	50%
		Plaza	Fall	10								10	3								3	30%	7								7	70%	9								9	90%	9								9	90%	6								6	60%
		Fall	Stewart	8								8	1								1	13%	9								9	113%	8								8	100%	8								8	100%	5								5	63%
	Telegraph	Nevada	Curry	7		1		2				10	6								6	60%	5								5	50%	6								6	60%	7		1	1					9	90%	6								6	60%
		Curry	Carson		17	1						18		11							11	61%		10							10	56%		12							12	67%		15							15	83%		17	1						18	100%
		Carson	Plaza		14			1				15		3							3	20%		4							4	27%		4							4	27%		3							3	20%		4							4	27%
		Plaza	Fall	5					1			6										0%										0%										0%	3								3	50%	1								1	17%
		Fall	Stewart	11								11										0%										0%										0%										0%										0%
	Spear	Nevada	Curry	14								14	9								9	64%	9								9	64%	12								12	86%	12								12	86%	11								11	79%
		Curry	Carson		18	2						20		6							6	30%		13							13	65%		14							14	70%		18							18	90%		16	2						18	90%
		Fall	Stewart	12								12										0%										0%										0%										0%										0%
Lots	2			26	53	6				2	6	93	26	7	1				3		37	40%	26	14	1				3		44	47%	26	18	1				5		50	54%	25	28	1				3		57	61%	20	40	2						62	67%
	3			66								66	7								7	11%	6								6	9%	9								9	14%	8								8	12%	8								8	12%
	5			88								88	13								13	15%	30								30	34%	28								28	32%	36								36	41%	35								35	40%
	6			57								57	10								10	18%	14								14	25%	17								17	30%	17								17	30%	11								11	19%
	7	A		16		1						17	16								16	94%	16								16	94%	15								15	88%	16								16	94%	13								13	76%
		B		69		5						74	58		4						62	84%	63		4						67	91%	69		5						74	100%	67		5						72	97%	59		3						62	84%
		C		55		5						60	53								53	88%	48								48	80%	51		2						53	88%	55		1						56	93%	41								41	68%
		Sub Total		140		11						151	127		4						131	87%	127		4						131	87%	135		7						142	94%	138		6						144	95%	113		3						116	77%
	NS Streets			93	94		2	2	1		5	197	54	16		2	1				73		57	22		1					80		71	36		2	1		1		111		66	44		2			2		114		62	65		2			3		132	
	EW Street			83	89	10		5	1		2	190	33	34							67		44	47							91		51	57	1				2		111		54	65	3		1	1	1		125		40	70	4						114	
	Lots			377	53	17				2	6	455	183	7	5				3		198		203	14	5				3		225		215	18	8				5		246		224	28	7				3		262		187	40	5						232	
	Grand Total			**553**	**236**	**27**	**2**	**7**	**2**	**2**	**13**	**842**	**270**	**57**	**5**	**2**	**1**		**3**		**338**		**304**	**83**	**5**	**1**				**3**		**396**		**337**	**111**	**9**	**2**	**1**		**8**		**468**		**344**	**137**	**10**	**2**	**1**	**1**	**6**		**501**		**289**	**175**	**9**	**2**			**3**		**478**	

TABLE G - Central Area Detailed Counts-Tuesday 9/26/2019 (2 of 2)

		Between		Inventory									Thursday 9/25/2019 1:00 PM									
				Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti
N/S Streets	Nevada	Musser	Proctor	12								12	10								10	83%
N/S Streets	Nevada	Proctor	Telegraph	12								12	11								11	92%
N/S Streets	Nevada	Telegraph	Spear	11								11	9								9	82%
N/S Streets	Nevada	Spear	Robinson	6			2					8	2			2					4	50%
N/S Streets	Curry	Musser	Proctor		15			1				16		14			1				15	94%
N/S Streets	Curry	Proctor	Telegraph		16							16		14							14	88%
N/S Streets	Curry	Telegraph	Spear		15							15		10							10	67%
N/S Streets	Curry	Spear	Robinson		15							15		11							11	73%
N/S Streets	Carson	Musser	Proctor		3				1			4		3							3	75%
N/S Streets	Carson	Proctor	Telegraph		3						3	6		1						1	2	33%
N/S Streets	Carson	Telegraph	Spear		5							5		1							1	20%
N/S Streets	Carson	Spear	Robinson		6							6		2							2	33%
N/S Streets	Plaza	Musser	Proctor	9								9	9								9	100%
N/S Streets	Plaza	Proctor	Telegraph		16			1				17		6							6	35%
N/S Streets	Plaza	Telegraph	Spear	12							2	14	12							2	14	100%
N/S Streets	Fall	Musser	Proctor	6								6	5								5	83%
N/S Streets	Fall	Proctor	Telegraph	12								12	6								6	50%
N/S Streets	Fall	Telegraph	Spear	8								8	1								1	13%
N/S Streets	Fall	Spear	Robinson	5								5	2								2	40%
E/W Street	Musser	Nevada	Curry		10							10		4							4	40%
E/W Street	Musser	Curry	Carson	2							2	4	2							1	3	75%
E/W Street	Musser	Plaza	Fall	8		2		2				12	8		1		1				10	83%
E/W Street	Musser	Fall	Stewart	6								6	6								6	100%
E/W Street	Proctor	Curry	Carson		16	2						18		14	1						15	83%
E/W Street	Proctor	Carson	Plaza		14	2						16		4							4	25%
E/W Street	Proctor	Plaza	Fall	10								10	5								5	50%
E/W Street	Proctor	Fall	Stewart	8								8	4								4	50%
E/W Street	Telegraph	Nevada	Curry	7		1		2				10	8		1		1				10	100%
E/W Street	Telegraph	Curry	Carson		17	1						18		14							14	78%
E/W Street	Telegraph	Carson	Plaza		14			1				15		8							8	53%
E/W Street	Telegraph	Plaza	Fall	5					1			6	1								1	17%
E/W Street	Telegraph	Fall	Stewart	11								11										0%
E/W Street	Spear	Nevada	Curry	14								14	10								10	71%
E/W Street	Spear	Curry	Carson		18	2						20		15	2						17	85%
E/W Street	Spear	Fall	Stewart	12								12										0%
Lots	2			26	53	6				2	6	93	21	35	3					4	63	68%
Lots	3			66								66	9								9	14%
Lots	5			88								88	31								31	35%
Lots	6			57								57	12								12	21%
Lots	7	A		16		1						17	14								14	82%
Lots	7	B		69		5						74	58		4						62	84%
Lots	7	C		55		5						60	44		1						45	75%
Lots	7	Sub Total		140		11						151	116		5						121	80%
NS Streets				93	94		2	2	1		5	197	67	62		2	1			3	135	
EW Street				83	89	10		5	1		2	190	44	59	5		2			1	111	
Lots				377	53	17				2	6	455	189	35	8					4	236	
Grand Total				**553**	**236**	**27**	**2**	**7**	**2**	**2**	**13**	**842**	**300**	**156**	**13**	**2**	**3**			**8**	**482**	

		Between		Thursday 9/25/2019 2:00 PM										Thursday 9/25/2019 3:00 PM									
				Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti
N/S Streets	Nevada	Musser	Proctor	9								9	75%	6								6	50%
N/S Streets	Nevada	Proctor	Telegraph	10								10	83%	6								6	50%
N/S Streets	Nevada	Telegraph	Spear	9								9	82%	3								3	27%
N/S Streets	Nevada	Spear	Robinson	2			2					4	50%	2			2					4	50%
N/S Streets	Curry	Musser	Proctor		10							10	63%		8							8	50%
N/S Streets	Curry	Proctor	Telegraph		12							12	75%		15							15	94%
N/S Streets	Curry	Telegraph	Spear		10							10	67%		11							11	73%
N/S Streets	Curry	Spear	Robinson		12							12	80%		4							4	27%
N/S Streets	Carson	Musser	Proctor		3							3	75%		3							3	75%
N/S Streets	Carson	Proctor	Telegraph		3							3	50%		3							3	50%
N/S Streets	Carson	Telegraph	Spear		1							1	20%		3							3	60%
N/S Streets	Carson	Spear	Robinson		1							1	17%		2							2	33%
N/S Streets	Plaza	Musser	Proctor	5								5	56%	5								5	56%
N/S Streets	Plaza	Proctor	Telegraph		6							6	35%		6							6	35%
N/S Streets	Plaza	Telegraph	Spear	12								12	86%	7							1	8	57%
N/S Streets	Fall	Musser	Proctor	5								5	83%	5								5	83%
N/S Streets	Fall	Proctor	Telegraph	6								6	50%	5								5	42%
N/S Streets	Fall	Telegraph	Spear	1								1	13%	1								1	13%
N/S Streets	Fall	Spear	Robinson	2								2	40%	2								2	40%
E/W Street	Musser	Nevada	Curry		3							3	30%		4							4	40%
E/W Street	Musser	Curry	Carson	2							1	3	75%										0%
E/W Street	Musser	Plaza	Fall	8								8	67%	7		1						8	67%
E/W Street	Musser	Fall	Stewart	6								6	100%	5								5	83%
E/W Street	Proctor	Curry	Carson		12	1						13	72%		9							9	50%
E/W Street	Proctor	Carson	Plaza		3							3	19%		8							8	50%
E/W Street	Proctor	Plaza	Fall										0%	6								6	60%
E/W Street	Proctor	Fall	Stewart										0%	3								3	38%
E/W Street	Telegraph	Nevada	Curry										0%	3								3	30%
E/W Street	Telegraph	Curry	Carson		13							13	72%		17	1						18	100%
E/W Street	Telegraph	Carson	Plaza		7							7	47%		4							4	27%
E/W Street	Telegraph	Plaza	Fall	1								1	17%	1								1	17%
E/W Street	Telegraph	Fall	Stewart										0%										0%
E/W Street	Spear	Nevada	Curry	10								10	71%	9								9	64%
E/W Street	Spear	Curry	Carson		15	2						17	85%		13	2						15	75%
E/W Street	Spear	Fall	Stewart										0%										0%
Lots	2			22	30	1						53	57%	22	21						3	46	49%
Lots	3			9								9	14%	8								8	12%
Lots	5			32								32	36%	29								29	33%
Lots	6			11								11	19%	12								12	21%
Lots	7	A		14								14	82%	14								14	82%
Lots	7	B		51								51	69%	66		3						69	93%
Lots	7	C		45		1						46	77%	48		3						51	85%
Lots	7	Sub Total		110		1						111	74%	128		6						134	89%
NS Streets				61	58		2					121		42	55		2				1	100	
EW Street				27	53	3					1	84		34	55	4						93	
Lots				184	30	2						216		199	21	6					3	229	
Grand Total				**272**	**141**	**5**	**2**				**1**	**421**		**275**	**131**	**10**	**2**				**4**	**422**	

		Between		Thursday 9/25/2019 4:00 PM										Thursday 9/25/2019 5:00 PM									
				Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti
N/S Streets	Nevada	Musser	Proctor	4								4	33%	3								3	25%
N/S Streets	Nevada	Proctor	Telegraph	7								7	58%	9								9	75%
N/S Streets	Nevada	Telegraph	Spear	3								3	27%	1								1	9%
N/S Streets	Nevada	Spear	Robinson	3			2					5	63%	2			2					4	50%
N/S Streets	Curry	Musser	Proctor		12							12	75%		12							12	75%
N/S Streets	Curry	Proctor	Telegraph		10							10	63%		11							11	69%
N/S Streets	Curry	Telegraph	Spear		10							10	67%		13							13	87%
N/S Streets	Curry	Spear	Robinson		6							6	40%		10							10	67%
N/S Streets	Carson	Musser	Proctor		1							1	25%		1							1	25%
N/S Streets	Carson	Proctor	Telegraph		1						1	2	33%		2						1	3	50%
N/S Streets	Carson	Telegraph	Spear		2							2	40%		3							3	60%
N/S Streets	Carson	Spear	Robinson		2							2	33%		2							2	33%
N/S Streets	Plaza	Musser	Proctor	9								9	100%	4								4	44%
N/S Streets	Plaza	Proctor	Telegraph		7							7	41%		5							5	29%
N/S Streets	Plaza	Telegraph	Spear	11								11	79%	7								7	50%
N/S Streets	Fall	Musser	Proctor	5								5	83%	3								3	50%
N/S Streets	Fall	Proctor	Telegraph	5								5	42%	5								5	42%
N/S Streets	Fall	Telegraph	Spear	1								1	13%										0%
N/S Streets	Fall	Spear	Robinson	2								2	40%	3								3	60%
E/W Street	Musser	Nevada	Curry		5							5	50%		1							1	10%
E/W Street	Musser	Curry	Carson										0%										0%
E/W Street	Musser	Plaza	Fall	8					1			9	75%	6							1	7	58%
E/W Street	Musser	Fall	Stewart	2								2	33%	2								2	33%
E/W Street	Proctor	Curry	Carson		12							12	67%		12	1						13	72%
E/W Street	Proctor	Carson	Plaza		10							10	63%		10							10	63%
E/W Street	Proctor	Plaza	Fall	6								6	60%	5								5	50%
E/W Street	Proctor	Fall	Stewart	3								3	38%	3								3	38%
E/W Street	Telegraph	Nevada	Curry	2								2	20%										0%
E/W Street	Telegraph	Curry	Carson		8							8	44%		8							8	44%
E/W Street	Telegraph	Carson	Plaza		8							8	53%		6							6	40%
E/W Street	Telegraph	Plaza	Fall	1								1	17%	3								3	50%
E/W Street	Telegraph	Fall	Stewart										0%	8								8	73%
E/W Street	Spear	Nevada	Curry	10								10	71%	7								7	50%
E/W Street	Spear	Curry	Carson		15	1						16	80%		15	2						17	85%
E/W Street	Spear	Fall	Stewart										0%										0%
Lots	2			20	15						6	41	44%	20	48	1					4	73	78%
Lots	3			4								4	6%	3								3	5%
Lots	5			27								27	31%	20								20	23%
Lots	6			8								8	14%	9								9	16%
Lots	7	A		13		1						14	82%	4								4	24%
Lots	7	B		45		4						49	66%	29		2						31	42%
Lots	7	C		37		2						39	65%	28		3						31	52%
Lots	7	Sub Total		95		7						102	68%	61		5						66	44%
NS Streets				50	51		2				1	104		37	59		2				1	99	
EW Street				32	58	1			1			92		34	52	3					1	90	
Lots				154	15	7					6	182		113	48	6					4	171	
Grand Total				**236**	**124**	**8**	**2**		**1**		**7**	**378**		**184**	**159**	**9**	**2**				**6**	**360**	

TABLE H - South Area Detailed Counts-Tuesday 9/24/2019 (1 of 2)

		Between		Inventory								Tuesday 9/24/2019 8:00 AM								Tuesday 9/24/2019 9:00 AM								Tuesday 9/24/2019 10:00 AM								Tuesday 9/24/2019 11:00 AM								Tuesday 9/24/2019 12:00 PM							
				Regular	2hr ,	ADA,	Resident,	Loading,	Bus Stop,	Motorcycle,	Special,	Regular	2hr ,	ADA,	Resident,	Loading,	Bus Stop,	Motorcycle,	Special,	Regular	2hr ,	ADA,	Resident,	Loading,	Bus Stop,	Motorcycle,	Special,	Regular	2hr ,	ADA,	Resident,	Loading,	Bus Stop,	Motorcycle,	Special,	Regular	2hr ,	ADA,	Resident,	Loading,	Bus Stop,	Motorcycle,	Special,	Regular	2hr ,	ADA,	Resident,	Loading,	Bus Stop,	Motorcycle,	Special,
				Total,								*Total,*	% Uti							*Total,*	% Uti							*Total,*	% Uti							*Total,*	% Uti							*Total,*	% Uti						
North/South Streets	Nevada	5th	4th	10								1																1								1								2							
		4th	3rd	9																																														
		3rd	2nd	8								2								1								1								1								1							
		2nd	King	8																1								2								3								2							
		King	Musser	4	7		1								2					1			2					2								2	3							2	2						
	Curry	5th	4th	9								2								1								1								1								1							
		4th	3rd	9		1						5		1						5		1						6		1						7		1						9							
		3rd	2nd	3	2			3				2	2							2								2	2							2	2							1	2			3			
		2nd	King		11	1							8								8								8	1							5	1							8	1					
		King	Musser		7								4								4								4								2								1						
	Carson	5th	4th		2																																													
		4th	3rd		2								1																2								2								2							
		3rd	2nd		5								3								3								1								2								5							
E/W St	5th	Nevada	Curry	13																																1								1							
	4th	Nevada	Curry	10								4																								1								7							
		Curry	Carson		17						1		1								3								5								8								10							
	2nd	Nevada	Curry	10								6								7								8								9								9							
		Curry	Carson		11	1							7								5								5								5								7							
	King	Nevada	Curry	20			1					18										1						17			1					20								9			1				
Lots		1		85		2	6					33			1					33			1					33			1					36			1					34			2				
			NS Streets	*60*	*36*	*2*	*1*	*3*			*102*	*12*	*18*	*1*	*2*				*33*	*11*	*15*	*1*	*2*				*29*	*13*	*17*	*2*	*2*				*34*	*17*	*16*	*2*					*35*	*18*	*20*	*1*		*3*			*42*
			EW Street	*53*	*28*	*1*	*1*			*1*	*84*	*28*	*8*						*36*	*7*	*8*		*1*				*16*	*25*	*10*		*1*				*36*	*31*	*13*						*44*	*26*	*17*		*1*				*44*
			Lots	*85*		*2*	*6*				*93*	*33*			*1*				*34*	*33*			*1*				*34*	*33*			*1*				*34*	*36*				*1*			*37*	*34*			*2*				*36*
			Grand Total	***198***	***64***	***5***	***8***	***3***		***1***	***279***	***73***	***26***	***1***	***3***				***103***	***51***	***23***	***1***	***4***				***79***	***71***	***27***	***2***	***4***				***104***	***84***	***29***	***2***	***1***				***116***	***78***	***37***	***1***	***3***	***3***			***122***

TABLE H - South Area Detailed Counts-Tuesday 9/24/2019 (2 of 2)

		Between		Inventory								Tuesday 9/24/2019 1:00 PM										Tuesday 9/24/2019 2:00 PM										Tuesday 9/24/2019 3:00 PM										Tuesday 9/24/2019 4:00 PM										Tuesday 9/24/2019 5:00 PM									
				Regular	2hr ,	ADA,	Resident,	Loading,	Bus Stop,	Motorcycle,	Special,	Regular	2hr ,	ADA,	Resident,	Loading,	Bus Stop,	Motorcycle,	Special,	Total,	% Uti	Regular	2hr ,	ADA,	Resident,	Loading,	Bus Stop,	Motorcycle,	Special,	Total	% Uti	Regular	2hr ,	ADA,	Resident,	Loading,	Bus Stop,	Motorcycle,	Special,	Total,	% Uti	Regular	2hr ,	ADA,	Resident,	Loading,	Bus Stop,	Motorcycle,	Special,	Total,	% Uti	Regular	2hr ,	ADA,	Resident,	Loading,	Bus Stop,	Motorcycle,	Special,	Total,	% Uti
North/South Streets	Nevada	5th	4th	10								2							2	2	20%	2	2						4	40%	2							2	20%	1							1	10%	2							2	20%
		4th	3rd	9																0	0%								0	0%								0%								0%								0%
		3rd	2nd	8								1							1	1	13%	1								1	13%	2							2	25%								0%	1							1	13%
		2nd	King	8								1							1	1	13%									0	0%								0%	1							1	13%								0%
		King	Musser	4	7		1					2	2					2	6	4	50%	2	2							4	33%	2	2							4	33%	3								3	25%	2	2						4	33%
	Curry	5th	4th	9								7							7	6	78%	6								5	56%	5								5	56%	3								3	33%	1							1	11%
		4th	3rd	9		1						5							5	4	50%	4								4	40%	5								5	50%	2								2	20%	3							3	30%
		3rd	2nd	3	2			3				1	2			1			4	4	50%	2	2							4	50%	3	2							5	63%		2							2	25%		1						1	13%
		2nd	King		11	1							5	1					6	4	50%		3	1						4	33%		3	1						4	33%		9	1						10	83%		4						4	33%
		King	Musser		7								1						1	1	14%		1							1	14%		2							2	29%		3							3	43%		5						5	71%
	Carson	5th	4th		2																0%									0%									0%									0%									0%
		4th	3rd		2								2						2	2	100%		2							2	100%		2							2	100%		2							2	100%		2						2	100%
		3rd	2nd		5								2						2	2	40%		4							4	80%		5							5	100%		3							3	60%		5						5	100%
E/W St	5th	Nevada	Curry	13																	0%									0%									0%									0%									0%
	4th	Nevada	Curry	10								2							2	2	20%	2								2	20%	2								2	20%	2								2	20%	1							1	10%
		Curry	Carson		17					1			11						11	9	61%		9							9	50%		9							9	50%		15							15	83%		2						2	11%
	2nd	Nevada	Curry	10								9							9	7	90%	7								7	70%	5								5	50%	10								10	100%	1							1	10%
		Curry	Carson		11	1							3						3	3	25%		3							3	25%		4							4	33%		2							2	17%		4						4	33%
	King	Nevada	Curry	20			1					10							10	10	48%	10								10	48%	9								9	43%	9			1					10	48%	3			1				4	19%
Lots		1		85		2	6					37			2				39	39	42%	35			1				36	39%	41			2				43	46%	28			1				29	31%	34			2				36	39%
			NS Streets	*60*	*36*	*2*	*1*	*3*			*102*	*19*	*14*	*1*		*1*			*2*	*37*		*17*	*16*	*1*					*34*		*19*	*16*	*1*					*36*		*10*	*19*	*1*					*30*		*9*	*19*						*28*	
			EW Street	*53*	*28*	*1*	*1*			*1*	*84*	*21*	*14*						*35*		*19*	*12*						*31*		*16*	*13*					*29*		*21*	*17*		*1*			*39*		*5*	*6*	*1*				*12*	
			Lots	*85*		*2*	*6*				*93*	*37*			*2*				*39*		*35*			*1*				*36*		*41*			*2*			*43*		*28*			*1*			*29*		*34*		*2*				*36*	
			Grand Total	***198***	***64***	***5***	***8***	***3***		***1***	***279***	***77***	***28***	***1***	***2***	***1***		***2***	***111***		***71***	***28***	***1***	***1***				***101***		***76***	***29***	***1***	***2***				***108***		***59***	***36***	***1***	***2***				***98***		***48***	***25***	***3***					***76***	

TABLE I - South Area Detailed Counts-Tuesday 9/26/2019 (1 of 2)

				Inventory									Thursday 9/26/2019 8:00 AM										Thursday9/25/2019 9:00 AM										Thursday 9/25/2019 10:00 AM										Thursday 9/25/2019 11:00 AM										Thursday 9/25/2019 12:00 PM									
				Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	Total	% Uti
North/South Streets		5th	4th	10								10	2								*2*	20%	1								*1*	10%	2								*2*	20%	3								*3*	30%									0%
	Nevada	4th	3rd	9								9										0%									0%									0%	2								*2*	22%									0%
		3rd	2nd	8								8	1								*1*	13%	1								*1*	13%	2								*2*	25%	3								*3*	38%	4								*4*	50%
		2nd	King	8								8										0%	3								*3*	38%	3								*3*	38%	3								*3*	38%	4								*4*	50%
		King	Musser	4	7		1					12	2								*2*	17%	2								*2*	17%	1								*1*	8%	3								*3*	25%	4								*4*	33%
		5th	4th	9								9	1								*1*	11%	4								*4*	44%	3								*3*	33%	2								*2*	22%	3								*3*	33%
		4th	3rd	9		1						10	1	1							*2*	20%	5								*5*	50%	6								*6*	60%	3								*3*	30%	6								*6*	60%
	Curry	3rd	2nd	3	2			3				8										0%	3		1		1				*5*	63%	3	2		1					*6*	75%	3	1							*4*	50%	3				1				*4*	50%
		2nd	King		11	1						12		2							*2*	17%									0%									0%		7							*7*	58%		2							*2*	17%
		King	Musser		7							7		3							*3*	43%									0%		1							*1*	14%		1							*1*	14%		4							*4*	57%
		5th	4th		2							2										0%									0%									0%									0%									0%
	Carson	4th	3rd		2							2		1							*1*	50%		3							*3*	150%		2							*2*	100%		2							*2*	100%		2							*2*	100%
		3rd	2nd		5							5		4							*4*	80%		3							*3*	60%		6							*6*	120%		5							*5*	100%		5							*5*	100%
E/W St	5th	Nevada	Curry	13								13										0%									0%									0%	3								*3*	23%									0%
	4th	Nevada	Curry	10								10	1								*1*	10%	2								*2*	20%	3								*3*	30%	4								*4*	40%	4								*4*	40%
		Curry	Carson		17					1		18		2							*2*	11%	2								*2*	11%	3								*3*	17%		14							*14*	78%		14							*14*	78%
	2nd	Nevada	Curry	10								10	1								*1*	10%	6						1		*7*	70%	6						1		*7*	70%	12								*12*	120%	8								*8*	80%
		Curry	Carson		11	1						12		2							*2*	17%		2							*2*	17%		3							*3*	25%		8							*8*	67%		2							*2*	17%
	King	Nevada	Curry	20			1					21	1								*1*	5%	12								*12*	57%	13								*13*	62%	17								*17*	81%									0%
Lots			1	85		2	6					93	17			1					*18*	19%	32			3					*35*	38%	30			1					*31*	33%	28			1					*29*	31%	40			2					*42*	45%
			NS Streets	*60*	*36*	*2*	*1*	*3*				*102*	*7*	*11*							*18*		*19*	*6*	*1*		*1*				*27*		*20*	*11*		*1*					*32*		*22*	*16*							*38*		*24*	*13*			*1*				*38*	
			EW Street	*53*	*28*	*1*	*1*			*1*		*84*	*3*	*4*							*7*		*22*	*2*						*1*	*25*		*25*	*3*						*1*	*29*		*36*	*22*							*58*		*12*	*16*							*28*	
			Lots	*85*		*2*	*6*					*93*	*17*			*1*					*18*		*32*			*3*					*35*		*30*			*1*					*31*		*28*			*1*					*29*		*40*			*2*					*42*	
			Grand Total	***198***	***64***	***5***	***8***	***3***		***1***		***279***	***27***	***15***		***1***					***43***		***73***	***8***	***1***	***3***	***1***			***1***	***87***		***75***	***14***		***2***				***1***	***92***		***86***	***38***		***1***					***125***		***76***	***29***		***2***	***1***				***108***	

TABLE I - South Area Detailed Counts-Tuesday 9/26/2019 (2 of 2)

				Inventory									Thursday 9/25/2019 1:00 PM										Thursday 9/25/2019 2:00 PM									
				Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	*Total*	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	*Total*	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	*Total*	% Uti
North/South Streets	Nevada	5th	4th	10								10	2								*2*	20%	1								*1*	10%
		4th	3rd	9								9	2								*2*	22%	1								*1*	11%
		3rd	2nd	8								8	4								*4*	50%	3								*3*	38%
		2nd	King	8								8	7								*7*	88%	3								*3*	38%
		King	Musser	4	7		1					12	4								*4*	33%	1								*1*	8%
	Curry	5th	4th	9								9	4								*4*	44%	4								*4*	44%
		4th	3rd	9			1					10	5								*5*	50%	4								*4*	40%
		3rd	2nd	3	2			3				8	3	1							*4*	50%	4				1				*5*	63%
		2nd	King		11	1						12		7							*7*	58%		6							*6*	50%
		King	Musser		7							7		6							*6*	86%		6							*6*	86%
	Carson	5th	4th		2							2										0%										0%
		4th	3rd		2							2		2							*2*	100%		2							*2*	100%
		3rd	2nd		5							5		4							*4*	80%		4							*4*	80%
E/W St	5th	Nevada	Curry	13								13	2								*2*	15%	2								*2*	15%
	4th	Nevada	Curry	10								10	5								*5*	50%	5								*5*	50%
		Curry	Carson		17					1		18		17							*17*	94%		16							*16*	89%
	2nd	Nevada	Curry	10								10	6								*6*	60%	7								*7*	70%
		Curry	Carson		11	1						12										0%		2							*2*	17%
	King	Nevada	Curry	20			1					21	2								*2*	10%										0%
Lots			1	85		2	6					93	35		2						*37*	40%	38		2						*40*	43%
			NS Streets	*60*	*36*	*2*	*1*	*3*				*102*	*31*	*20*							*51*		*21*	*18*		*1*					*40*	
			EW Street	*53*	*28*	*1*	*1*			*1*		*84*	*15*	*17*							*32*		*14*	*18*							*32*	
			Lots	*85*		*2*	*6*					*93*	*35*		*2*						*37*		*38*		*2*						*40*	
			Grand Total	***198***	***64***	***5***	***8***	***3***		***1***		***279***	***81***	***37***	***2***						***120***		***73***	***36***	***2***	***1***					***112***	

				Thursday 9/25/2019 3:00 PM									Thursday 9/25/2019 4:00 PM									Thursday 9/25/2019 5:00 PM								
				Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	*Total*	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	*Total*	% Uti	Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	*Total*	% Uti
North/South Streets	Nevada	5th	4th	1								*1*	10%	1								*1*	10%	1								*1*	10%
		4th	3rd										0%										0%										0%
		3rd	2nd										0%										0%										0%
		2nd	King	4								*4*	50%	4								*4*	50%	2								*2*	25%
		King	Musser	1								*1*	8%	1								*1*	8%	1								*1*	8%
	Curry	5th	4th	2								*2*	22%	2								*2*	22%	3								*3*	33%
		4th	3rd	6								*6*	60%	6								*6*	60%	7								*7*	70%
		3rd	2nd	3	1		2					*6*	75%	3	2		1					*6*	75%	3	2							*5*	63%
		2nd	King		8							*8*	67%		7							*7*	58%		1							*1*	8%
		King	Musser		2							*2*	29%		2							*2*	29%		2							*2*	29%
	Carson	5th	4th									*0*	0%										0%										0%
		4th	3rd		2							*2*	100%		2							*2*	100%										0%
		3rd	2nd		4							*4*	80%		5							*5*	100%		3							*3*	60%
E/W St	5th	Nevada	Curry										0%										0%										0%
	4th	Nevada	Curry	2								*2*	20%	2								*2*	20%										0%
		Curry	Carson		7							*7*	39%		7							*7*	39%		9							*9*	50%
	2nd	Nevada	Curry	6								*6*	60%	5								*5*	50%	2								*2*	20%
		Curry	Carson		2							*2*	17%		2							*2*	17%		3							*3*	25%
	King	Nevada	Curry	16			1					*17*	81%	16			1					*17*	81%	3								*3*	14%
Lots			1	36			2					*38*	41%	33			1					*34*	37%	51			1					*52*	56%
			NS Streets	*17*	*17*		*2*					*36*		*17*	*18*		*1*					*36*		*17*	*8*							*25*	
			EW Street	*24*	*9*		*1*					*34*		*23*	*9*		*1*					*33*		*5*	*12*							*17*	
			Lots	*36*			*2*					*38*		*33*			*1*					*34*		*51*			*1*					*52*	
			Grand Total	***77***	***26***		***3***	***2***				***108***		***73***	***27***		***2***	***1***				***103***		***73***	***20***		***1***					***94***	

TABLE J: Summary of Peak Parked Vehicle Counts by Type and Area

		Regular	2hr	ADA	Resident	Loading	Bus Stop	Motorcycle	Special	*Total*
Inventory of Parking spaces										
North	NS Streets	124	16	0	1	2	5	0	1	149
	EW Street	101	0	2	0	3	2	0	2	110
	Lots	15	0	1	0	0	0	0	0	16
Central	NS Streets	93	94	0	2	2	1	0	5	197
	EW Street	83	89	10	0	5	1	0	2	190
	Lots	377	53	17	0	0	0	2	6	455
South	NS Streets	60	36	2	1	3	0	0	0	102
	EW Street	53	28	1	1	0	0	1	0	84
	Lots	85	0	2	6	0	0	0	0	93
Peak[1] Observed Parked Vehicles										
North	NS Streets	46	10	0	0	0	0	0	0	56
	EW Street	32	0	0	0	0	0	0	0	32
	Lots	2	0	0	0	0	0	0	0	2
Central	NS Streets	63	53	0	3	0	0	0	3	122
	EW Street	55	60	3	0	1	1	0	1	121
	Lots	218	19	8	0	0	0	1	4	250
South	NS Streets	21	18	2	0	0	0	0	0	41
	EW Street	34	18	0	0	0	0	0	0	52
	Lots	32	0	0	1	0	0	0	0	33
Peak Percent Utilization										
North	NS Streets	37%	63%	--	0%	0%	0%	--	0%	38%
	EW Street	32%	--	0%	--	0%	0%	--	0%	29%
	Lots	13%	--	0%	--	--	--	--	--	13%
Central	NS Streets	68%	56%	--	150%	0%	0%	--	60%	62%
	EW Street	66%	67%	30%	--	20%	100%	--	50%	64%
	Lots	58%	36%	47%	--	--	--	50%	67%	55%
South	NS Streets	35%	50%	100%	0%	0%	--	--	--	40%
	EW Street	64%	64%	0%	0%	--	--	0%	--	62%
	Lots	38%	--	0%	17%	--	--	--	--	35%

Note 1: Peak is defined by peak hour (11:00AM) of all parked vehicles within the study area. As such sub areas or type can have a greater indivudual peak.

Carson City
Downtown Parking Study

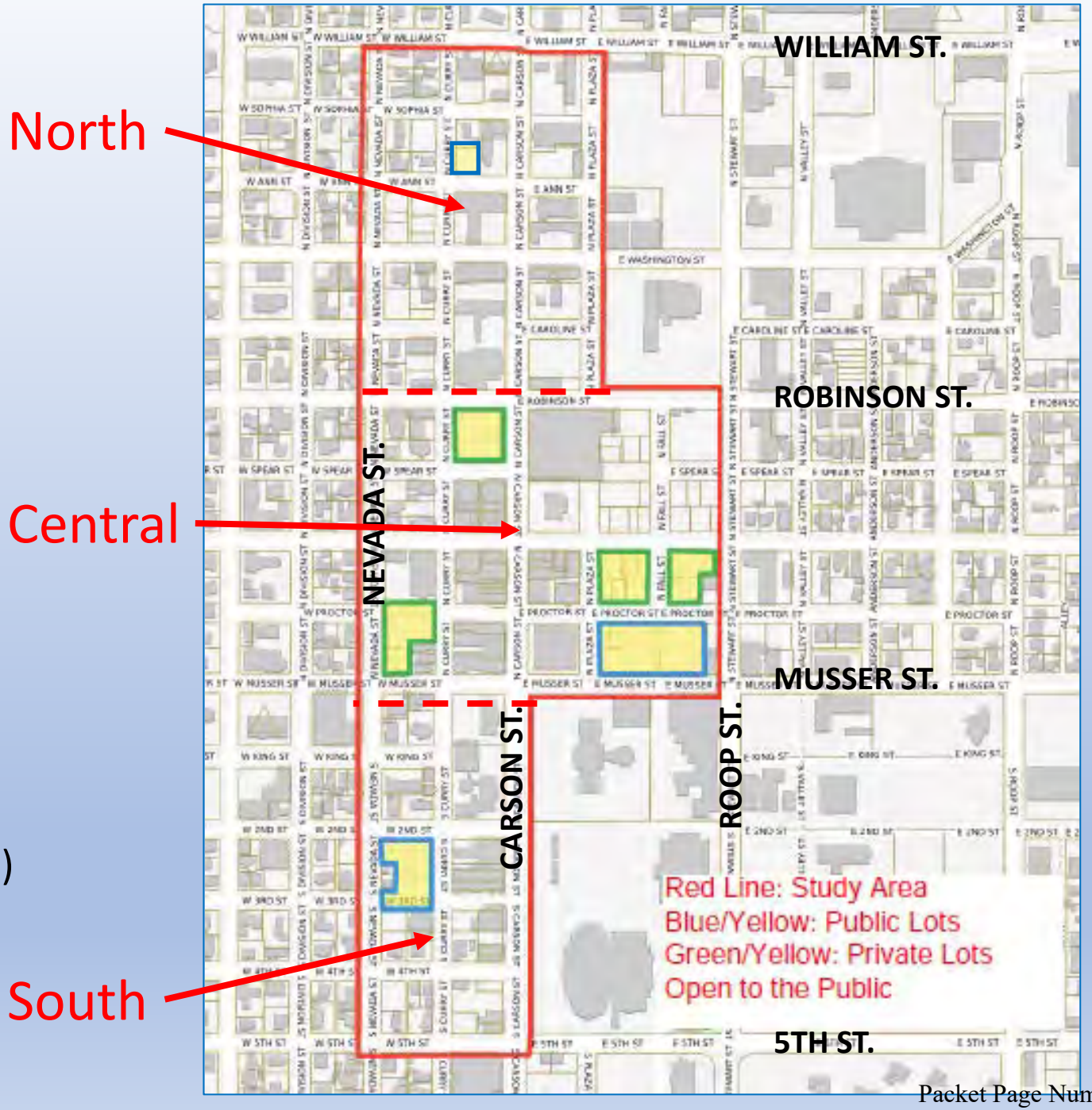
Downtown Parking Study Area

Includes:

- All on-street parking
- Public parking lots
- Private parking lots open to the public

Parking counts conducted in:

- May 2019 (Legislative session)
- September 2019

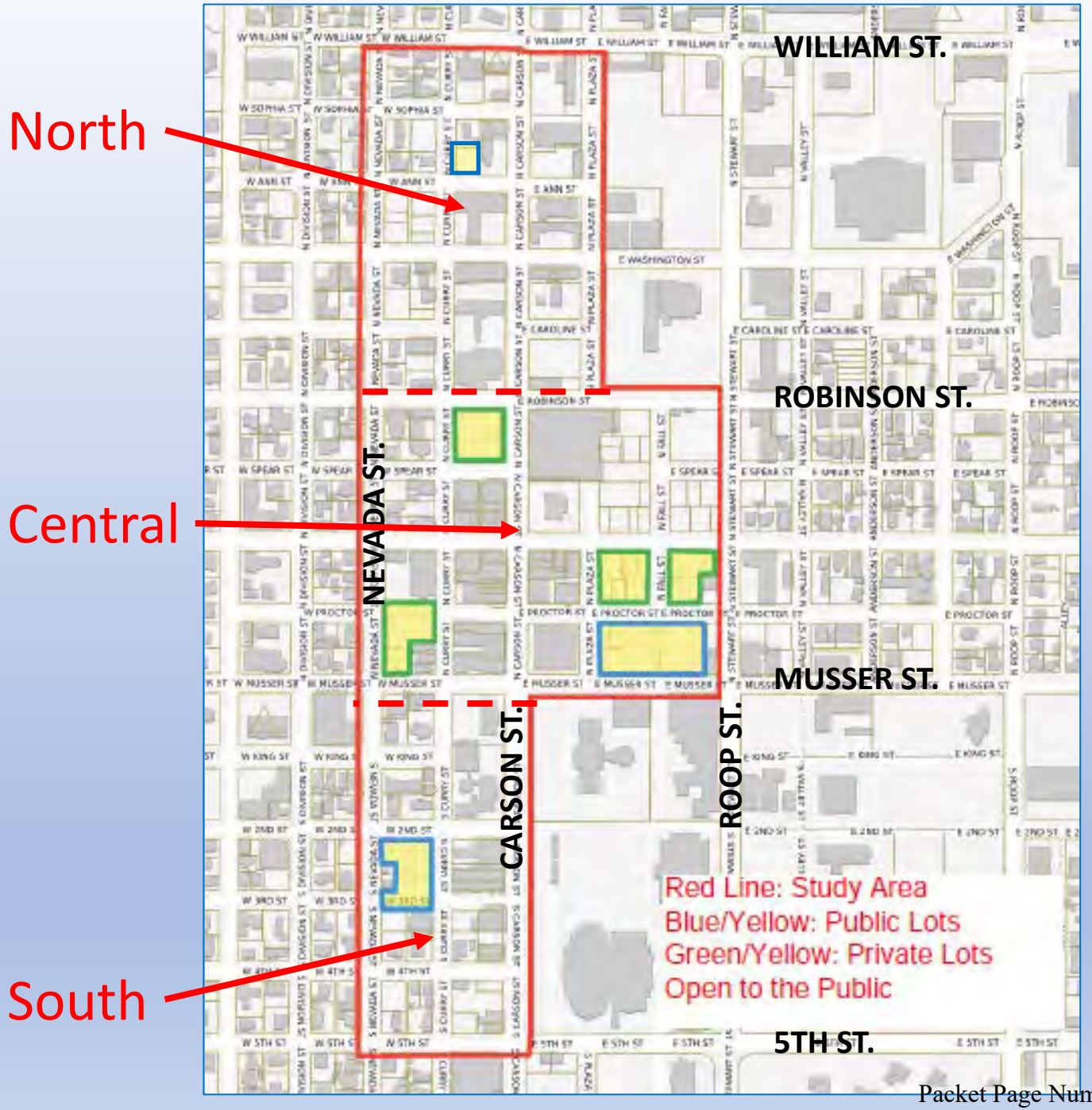


Downtown Parking Study Area

Parking inventory:

- 1,387 total public spaces
- 823 (59.3%) on-street
- 261 (18.8%) in public lots
- 303 (21.8%) in private lots

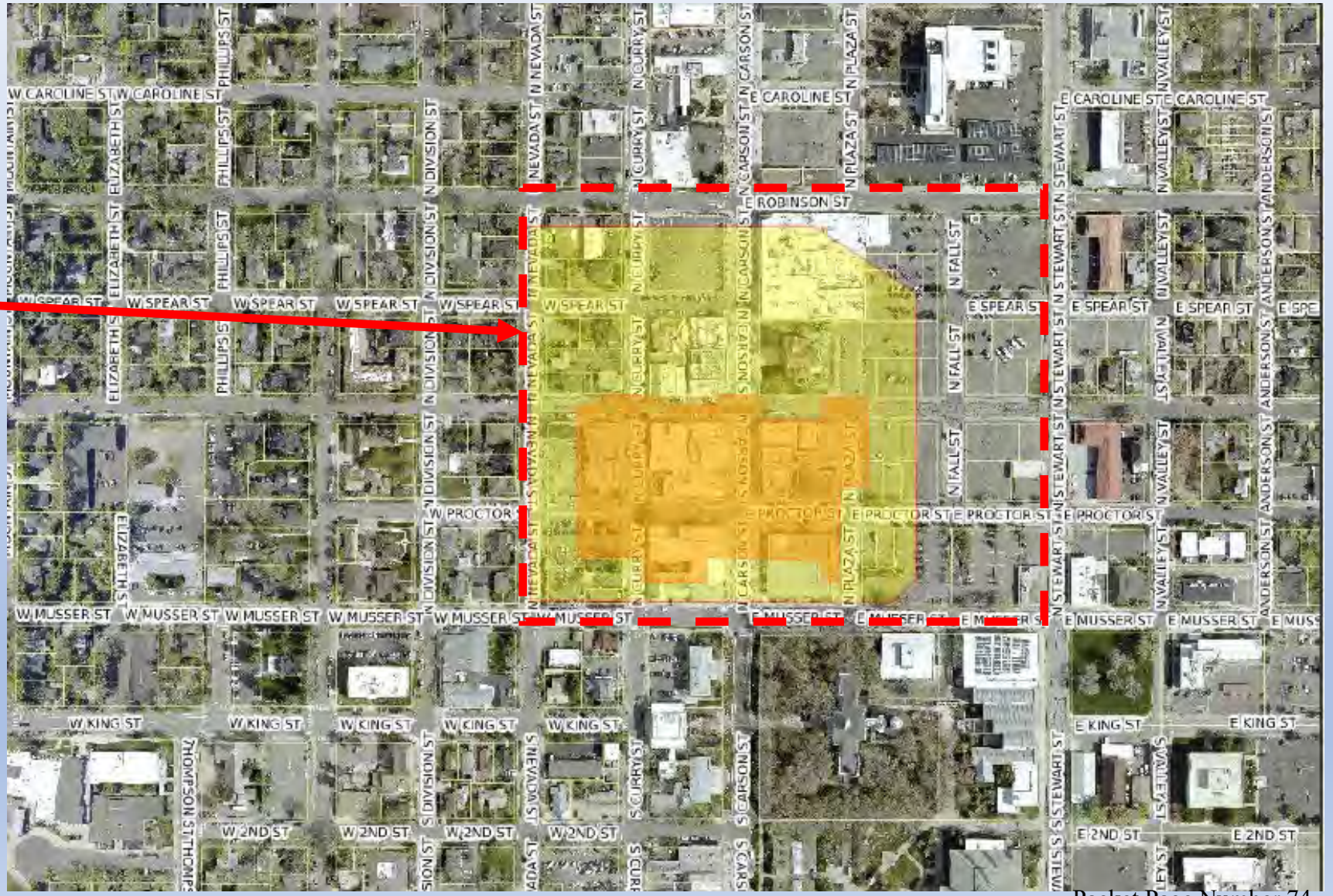
- 991 (71.4%) no restrictions
- 316 (22.7%) 2-hour limit
- 35 (2.5%) ADA
- 51 Other (resident, loading, bus, special)



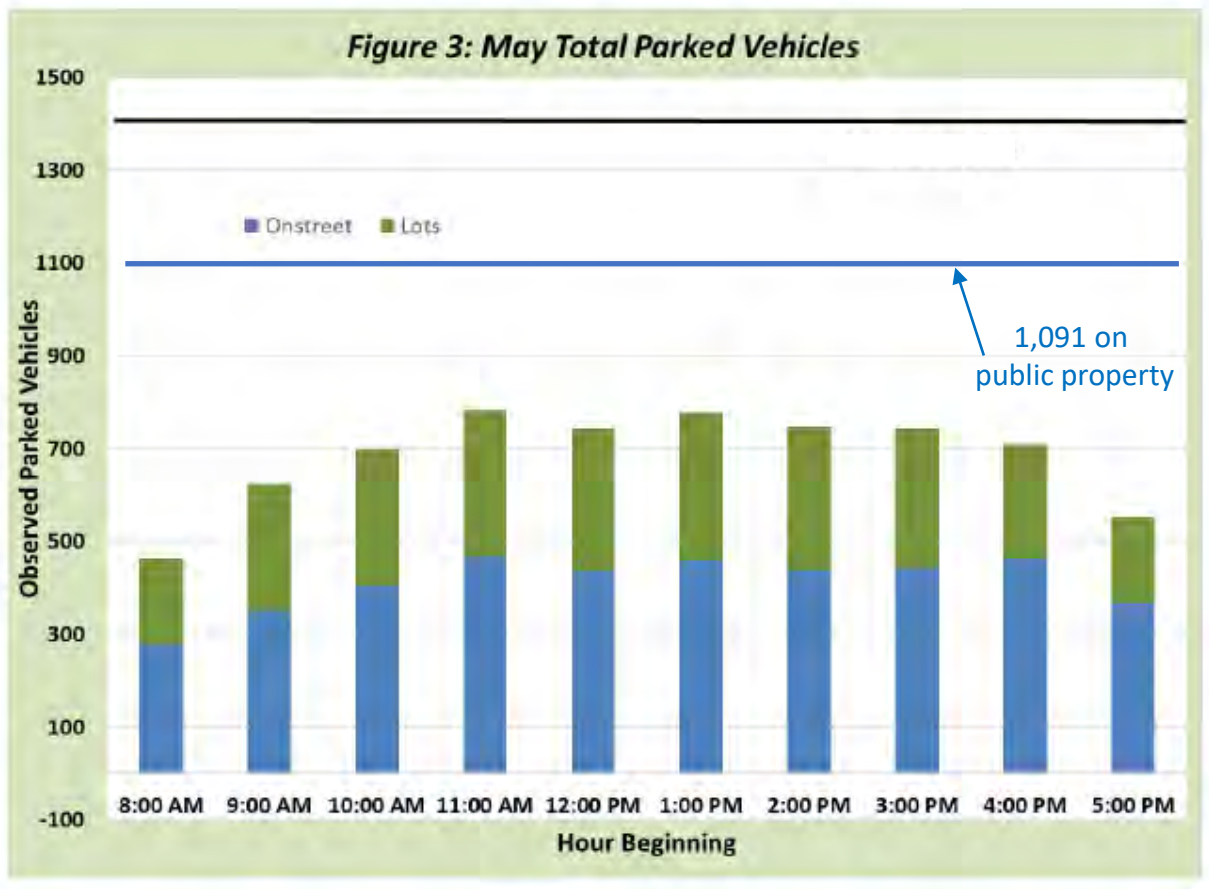
Wal-Mart property compared to downtown

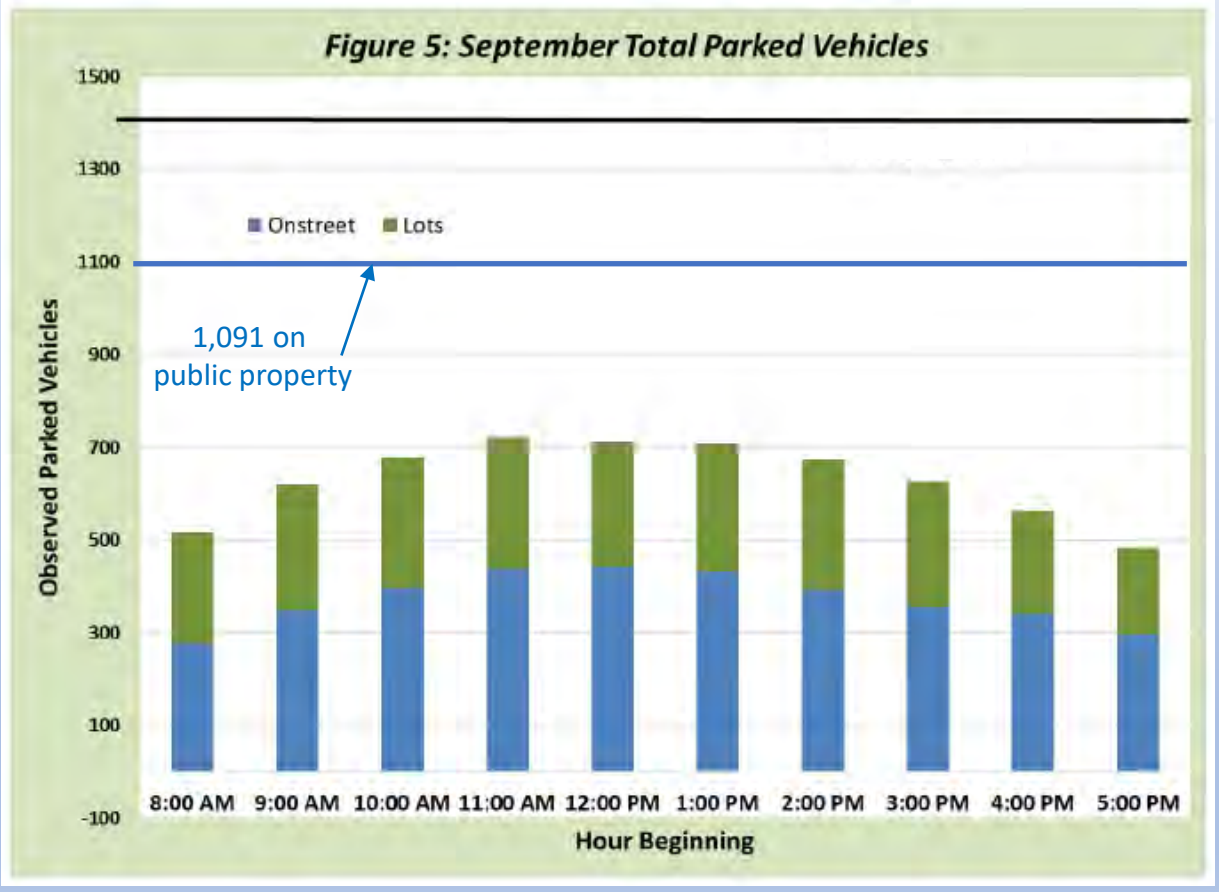
Central

Study Area

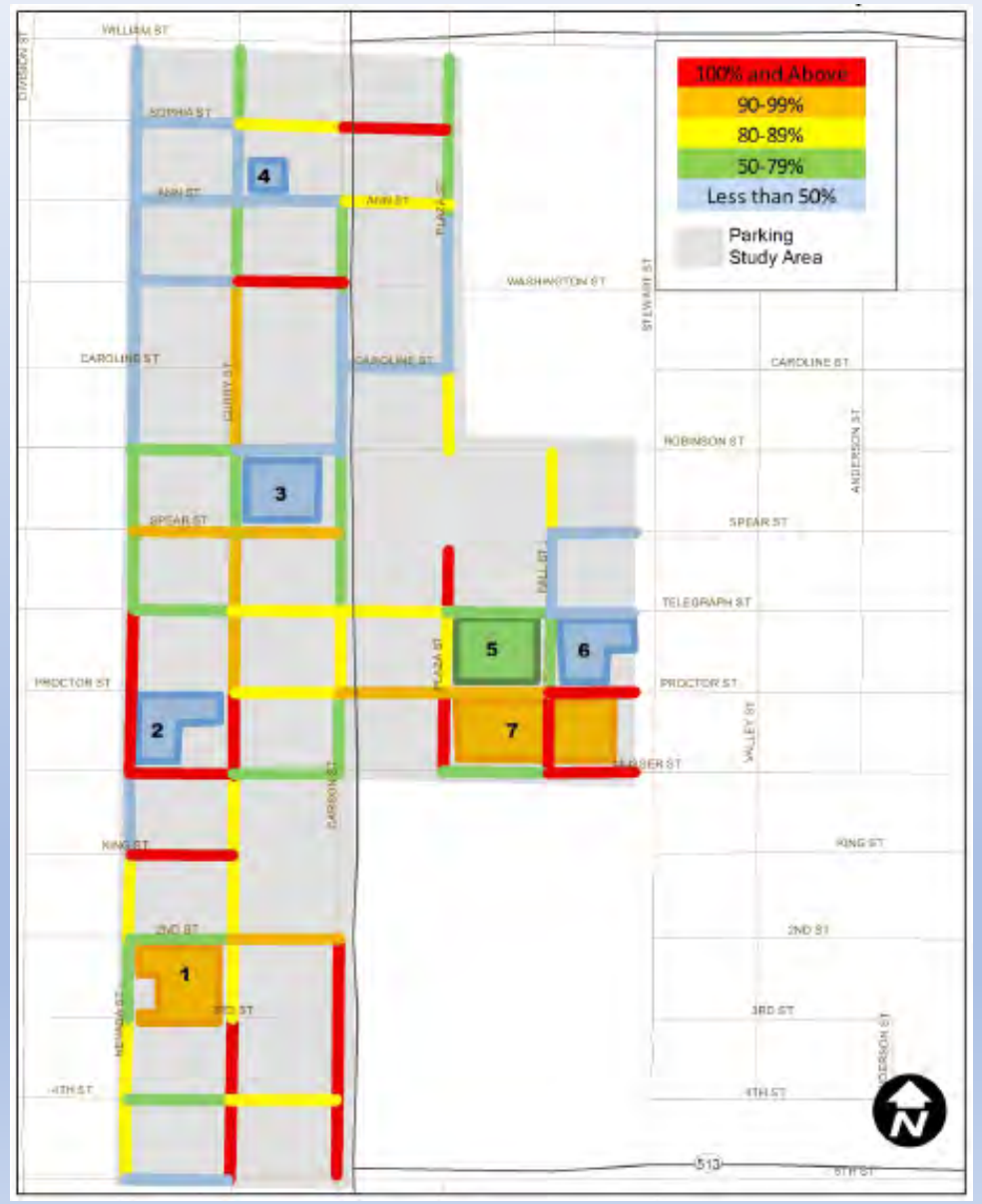


Average Daily Hourly Parking Use

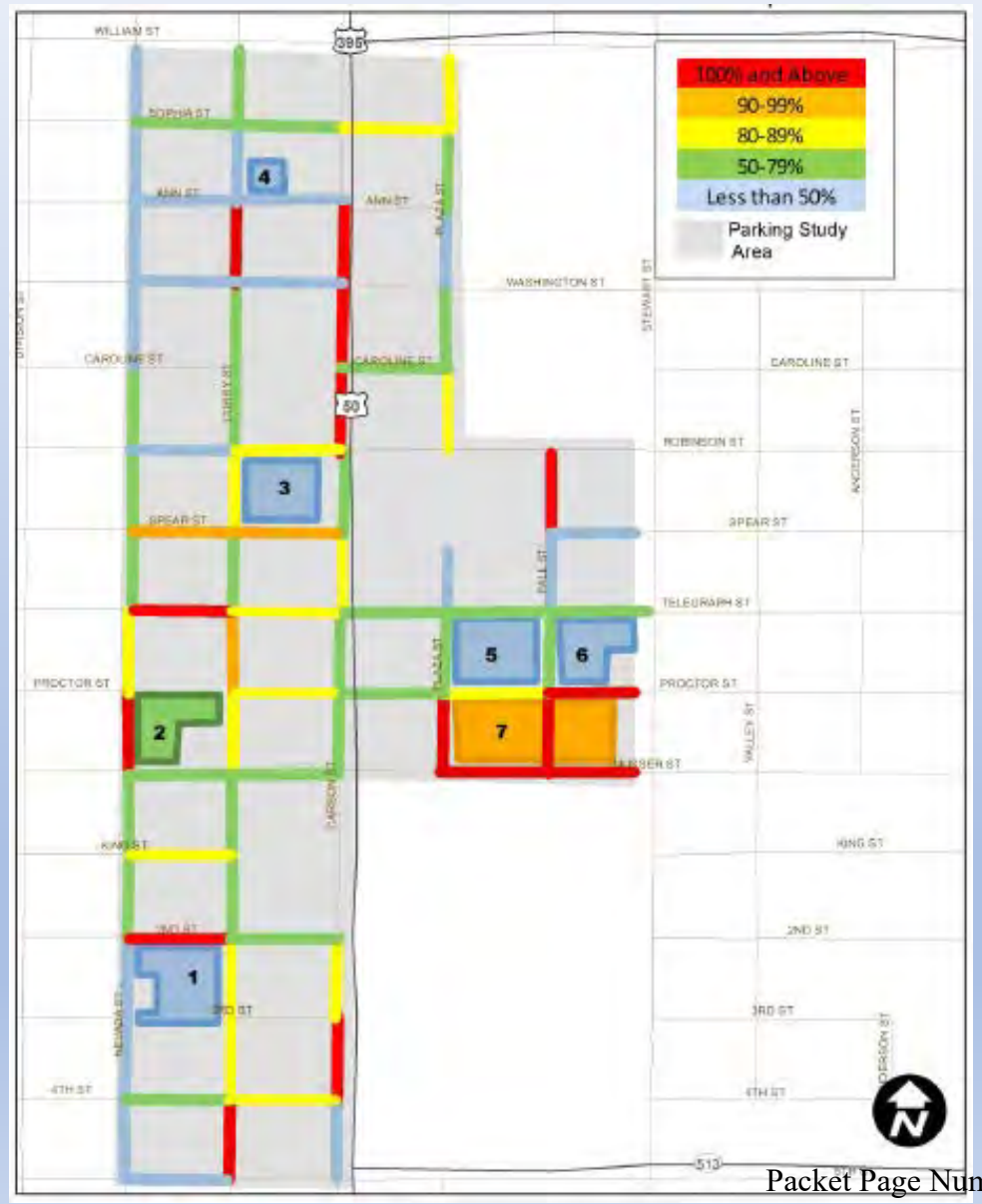




May Counts



September Counts



Conclusions and Recommendations Summary

- There is overall sufficient public parking available in downtown Carson City, with a maximum observed utilization rate of 57 percent when the Legislature is in session and 51 percent at other times.
- Peak utilization:

	May	September
Northern area:	34%	33%
Central area:	60%	59%
Southern area:	76%	45%

- The higher utilization rate of 2-hour spaces over regular spaces in the North subarea (63 percent in May versus 33 percent peak utilization in the September) indicates that it may be worthwhile to designate 4 to 8 more spaces in the North subarea for 2-hour parking.

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STAFF REPORT

Report To: The Carson City Regional Transportation Commission (RTC)

Meeting Date: July 8, 2020

Staff Contact: Chris Martinovich, Transportation/Traffic Engineer

Agenda Title: For Possible Action – Discussion and possible action regarding a determination that Coons Construction LLC, is the lowest responsive and responsible bidder pursuant to NRS Chapter 338 and to award Contract No. 20300007, CDBG Airport Road ADA Improvement Project, to Coons Construction LLC, for a total not to exceed amount of $177,619.20 to be funded from the Community Development Block Grant (CDBG) fund, Capital Improvements account.

Staff Summary: This contract is for all labor, materials, tools and equipment necessary for the CDBG Airport Road ADA Improvements Project, which includes applying new concrete sidewalk construction and asphalt pavement patching between U.S. Highway 50 and Champion Street. The construction contract is for the Base Bid amount of $161,472, plus a 10% contingency amount of $16,147.20. The engineer's base bid estimate for construction was $180,000.

Agenda Action: Formal Action/Motion **Time Requested:** 5 Minutes

---

Proposed Motion

I move to award Contract No. 20300007 as presented.

Background/Issues & Analysis

This is an ADA improvement project to construct new curb, gutter, sidewalk, and ADA compliant pedestrian ramps along Airport Road near U.S. Highway 50 and at Champion Street. The project is funded using a 2019 Community Development Block Grant. No local match is required. The grant amount awarded for this project was $227,979.

NOTICE TO CONTRACTORS was published in the Reno Gazette Journal on May 27, 2020. Five bids were opened at approximately 11:30 am on June 17, 2020, at 201 North Carson Street Suite 2, Carson City, NV 89701. Present during the bid opening were Jeff Sander and Eric Kendall, West Coast Paving; Ryan Coons, Coons Construction; Brian Elder, Kate Allen, and Courtney Melhaff, Carson City Public Works and Carol Akers, Carson City Purchasing and Contracts Administrator.

A total of five bids were received. The three lowest bids are listed below:

Bidder	**Base Bid**
1. Coons Construction LLC	$161,472
2. Sierra Nevada Construction, Inc.	$173,007
3. V&C Construction, Inc.	$177,158.75

Staff recommends award to Coons Construction LLC, as the lowest responsive and responsible bidder.

Applicable Statute, Code, Policy, Rule or Regulation
NRS Chapter 338

Financial Information
Is there a fiscal impact? ☒ Yes ☐ No

If yes, Fund Name, Account Name / Account Number: Project P303519011, Community Development Block Grant (CDBG) fund, Capital Improvements / Account 2750620-507010

Is it currently budgeted? ☒ Yes ☐ No

Explanation of Fiscal Impact: If approved, Community Development Block Grant (CDBG) fund, Capital Improvements, account number 2750620-507010, will be reduced by an amount not to exceed $177,619.20. The current available budget is $205,823.

Alternatives
Do not approve the contract and provide alternate direction to staff.

Supporting Material
-Exhibit-1: 20300007 Bid Tabulation Report
-Exhibit-2: Draft Contract No. 20300007

Board Action Taken:

Motion: _____ 1) _____ Aye/Nay
2) _____ _____
_____
_____
_____

_____
(Vote Recorded By)

Bid Tabulation Report from Carson City Purchasing & Contracts
775-283-7362

http://www.carson.org/index.aspx?page=998

Notice to Contractors Bid# 20300007 CDBG Airport Road ADA Improvement Project

Date and Time of Opening: 6/17/2020 @ 11:30am

	Description	Sched Value	Unit	Bidder # 1 Coons Construction LLC Unit price	Bidder # 1 Coons Construction LLC Total price	Bidder # 2 Sierra Nevada Construction, Inc. Unit price	Bidder # 2 Sierra Nevada Construction, Inc. Total price	Bidder #3 V&C Unit price	Bidder #3 V&C Total price
	BONDING Provided, $, %, or no			5%		5%		5%	
	BIDDER acknowledges receipt addendums			Y		Y		Y	
	Base Bid Items - Schedule A								
1	Mobilization, Demobilization and Clean-Up	1	LS	$14,092.97	$14,092.97	$6,000.00	$6,000.00	$7,500.00	$7,500.00
2	Stormwater Protection	1	LS	$1,724.00	$1,724.00	$500.00	$500.00	$1,500.00	$1,500.00
3	Traffic Control	1	LS	$17,399.00	$17,399.00	$7,337.00	$7,337.00	$29,000.00	$29,000.00
4	Demo and Remove Existing AC Pavement and Haul to Carson City Landfill (Free dump tickets provided by the City)	3,510	SF	$3.05	$10,705.50	$5.50	$19,305.00	$6.50	$22,815.00
5	Demo and Remove Existing PCC Curb, Gutters, Sidewalk and Valley Gutter and Haul to Carson City Landfill (Free dump tickets provided by the City)	1,340	SF	$3.18	$4,261.20	$5.25	$7,035.00	$6.50	$8,710.00
6	Construct Type 1 Driveway Apron (Including PCC Transition)	820	SF	$14.85	$12,177.00	$20.00	$16,400.00	$14.00	$11,480.00
7	Construct AC Pavement Driveway Transition	140	SF	$12.02	$1,682.80	$15.00	$2,100.00	$9.00	$1,260.00
8	Construct Type 1 PCC Curb & Gutter	330	LF	$57.94	$19,120.20	$44.00	$14,520.00	$34.00	$11,220.00
9	Construct Valley Gutter Spandrel	360	SF	$24.73	$8,902.80	$21.00	$7,560.00	$18.00	$6,480.00
10	Construct Valley Gutter	220	SF	$21.93	$4,824.60	$19.50	$4,290.00	$15.00	$3,300.00
11	Construct Parallel Pedestrian Curb Ramp	230	SF	$26.42	$6,076.60	$28.00	$6,440.00	$29.00	$6,670.00
12	Construct Mid-Block Pedestrian Curb Ramps	265	SF	$27.81	$7,369.65	$26.00	$6,890.00	$28.50	$7,552.50
13	Construct Type A PCC Sidewalk	1,515	SF	$9.85	$14,922.75	$17.00	$25,755.00	$9.75	$14,771.25
14	Construct Permanent AC Pavement Patch	3,600	SF	$8.07	$29,052.00	$11.50	$41,400.00	$10.50	$37,800.00
15	Lower and Raise Manhole Rim to Finish Grade	2	EA	$1,724.14	$3,448.28	$1,200.00	$2,400.00	$1,200.00	$2,400.00
16	Lower and Raise Water Valve Can to Finish Grade	1	EA	$919.54	$919.54	$950.00	$950.00	$800.00	$800.00
17	Relocate Existing Sign	2	EA	$344.83	$689.66	$425.00	$850.00	$400.00	$800.00
18	Remove Sign	1	EA	$172.41	$172.41	$175.00	$175.00	$200.00	$200.00
19	Pavement Striping	1	LS	$3,241.38	$3,241.38	$2,500.00	$2,500.00	$1,900.00	$1,900.00
20	Install 2.5" Telespar Sign Post (Carson City to Purchase and Install all RRFB Signs and Equipment-Do Not Include RRFB Installation in the Bid Price)	2	EA	344.83	$689.66	300	$600.00	$500.00	$1,000.00
	Total Bid Price (Schedule A)				**$161,472.00**		**$173,007.00**		**$177,158.75**
	Total Bid Price written in words? y/n			Y		Y		Y	
	Bidder Information provided? y/n			Y		Y		Y	
	Sub Contractors listed? y/n or none			Y		Y		Y	
	Bid Document executed? y/n			Y		Y		Y	

The City intends to award the contract to Coons Construction LLC

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CONSTRUCTION INDEPENDENT CONTRACTOR AGREEMENT
Contract No: 20300007
Title: CDBG Airport Road ADA Improvement Project

THIS CONTRACT made and entered into this 8th day of July, 2020, by and between Carson City, a consolidated municipality, a political subdivision of the State of Nevada, hereinafter referred to as **"CITY"**, and Coons Construction LLC, hereinafter referred to as **"CONTRACTOR".**

WITNESSETH:

WHEREAS, the Purchasing and Contracts Administrator for **CITY** is authorized pursuant to Nevada Revised Statutes (hereinafter referred to as "NRS") 338 and Carson City Purchasing Resolution #1990-R71, to approve and accept this Contract as set forth in and by the following provisions; and

WHEREAS, this Contract involves a "public work," which pursuant to NRS 338.010(17) means any project for the new construction, repair or reconstruction of an applicable project financed in whole or in part from public money; and

WHEREAS, **CONTRACTOR'S** compensation under this agreement (does_X_) (does not __) utilize in whole or in part money derived from one or more federal grant funding source(s) as set forth in **Exhibit B**; and

WHEREAS, it is deemed necessary that the services of **CONTRACTOR** for **CONTRACT No. 20300007,** titled **CDBG Airport Road ADA Improvement Project,** (hereinafter referred to as "Contract") are both necessary and in the best interest of **CITY**; and

NOW, THEREFORE, in consideration of the aforesaid premises, and the following terms, conditions and other valuable consideration, the parties mutually agree as follows:

1. REQUIRED APPROVAL:

This Contract shall not become effective until and unless approved by the Carson City Regional Transportation Commission.

2. SCOPE OF WORK (Incorporated Contract Documents):

2.1 The parties agree that the Scope of Work will be specifically described and hereinafter referred to as the "WORK." This Contract incorporates the following attachments, and a **CONTRACTOR'S** attachment shall not contradict or supersede any **CITY** specifications and/or terms or conditions without written evidence of mutual assent to such change appearing in this Contract:

2.1.1 **CONTRACTOR** agrees that the Contract Documents for Bid No.20300007 including, but not limited to, the Notice to Contractors, Table of Contents, Project Coordination, Instructions to Bidders, Contract Award Information, General Conditions, Special Conditions, Technical Specification, Prevailing Wages, Contract Drawings, and Addenda, if any, are intended to be complete and complementary and are intended to describe a complete WORK. These documents are incorporated herein by reference and made a part of this Contract. All of these documents can be reviewed in person at the Public Works Department 3505 Butti Way, Carson City, Nevada, 89701 or on the Carson City Website http://ww.carson.org/bids.

2.1.2 **CONTRACTOR** additionally agrees **CONTRACTOR'S** Bid Bond, Bid Proposal, Proposal Summary, Executed Contract, Performance Bond, Labor and Material Bond, Certificate of Eligibility, Insurance Certificates, Permits, Notice of Award, Notice to Proceed and Executed Change Orders, hereinafter all referred to as **Exhibit A**, are incorporated herein and made a part of this Contract.

For P&C Use Only	
CCBL expires	_____
NVCL expires	_____
GL expires	_____
AL expires	_____
WC expires	_____

3. CONTRACT TERM AND LIQUIDATED DAMAGES:

3.1 **CONTRACTOR** agrees to complete the WORK on or before the date specified in the Notice to Proceed or any executed Change Orders to the entire satisfaction of **CITY** before final payment is made, unless sooner termination by either party as specified in **Section 6** (CONTRACT TERMINATION) and the General Conditions, Section GC 3.18.

3.2 Pursuant to the provisions under Time for Completion and Liquidated Damages in the Contract Documents of said Specifications, **CONTRACTOR** will complete the WORK within the Contract time. Since **CITY** and **CONTRACTOR** agree it is difficult to ascertain the actual amount of damages incurred due to delay of the Project, it is agreed that **CITY** will be paid the liquidated damages as specified in the Contract Special Conditions for each and every calendar day of delay in the completion of the WORK, in addition to any direct charges incurred by **CITY** as a result of delay of the Project, including engineering fees and additional damages due to late construction. **CITY** also reserves the right to deduct any amounts due **CITY** from any monies earned by **CONTRACTOR** under this Contract.

3.3 That in the performance of this Contract, **CONTRACTOR** and any subcontractors, as employers, shall pay 1 ½ times an employee's regular wage rate whenever an employee who received compensation for employment at a rate less than 1 ½ time the minimum wage who works more than forty (40) hours in any scheduled work week, more than eight (8) hours in a day, unless by mutual agreement the employee works a scheduled ten (10) hours per day for four (4) calendar days within a work week. Employers should refer to NRS 608.018, NRS 338.020 and A.O. 2013-04 for further details on overtime requirements.

4. NOTICE:

4.1 Except the bid and award process where notices may be limited to postings by **CITY** on its Bid Opportunities website (www.carson.org), all notices or other communications required or permitted to be given under this Contract shall be in writing and shall be deemed to have been duly given if delivered personally in hand, by e-mail, by regular mail, by telephonic facsimile with simultaneous regular mail, or by certified mail, return receipt requested, postage prepaid on the date posted, and addressed to the other party at the address specified below.

4.2 Notice to **CONTRACTOR** shall be addressed to:

Daniel F. Coons, Owner
Coons Construction LLC
PO Box 1460
Dayton, NV 89403
775-246-1660
kelly@coons.biz

4.3 Notice to **CITY** shall be addressed to:

Carson City Purchasing and Contracts Department
Carol Akers
201 North Carson Street, Suite 2
Carson City, NV 89701
775-283-7124 / FAX 775-887-2286
CAkers@carson.org

5. COMPENSATION:

5.1 The parties agree that **CONTRACTOR** will provide the WORK specified in the Contract for the Contract Amount of One Hundred Sixty One Thousand Four Hundred Seventy Two Dollars and 00/100 ($161,472.00).

5.2 **CITY** will pay **CONTRACTOR** progress payments and the final payment computed from the actual quantities of WORK performed and accepted and the materials furnished at the Unit and Lump Sum prices shown on **CONTRACTOR'S** Bid Proposal and any executed Change Orders.

5.3 Contract Amount represents full and adequate compensation for the complete WORK, and includes the furnishing of all materials, all labor, equipment, tools, transportation, services, appliances, and all expenses, direct or indirect connected with the proper execution of the WORK.

5.4 **CITY** does not agree to reimburse **CONTRACTOR** for expenses unless otherwise specified.

6. CONTRACT TERMINATION:

6.1 Termination Without Cause:

6.1.1 Any discretionary or vested right of renewal notwithstanding, this Contract may be terminated upon written notice by mutual consent of both parties or unilaterally by either party without cause.

6.1.2 **CITY** reserves the right to terminate this Contract for convenience whenever it considers termination, in its sole and unfettered discretion, to be in the public interest. In the event that the Contract is terminated in this manner, payment will be made for WORK actually completed. If termination occurs under this provision, in no event shall **CONTRACTOR** be entitled to anticipated profits on items of WORK not performed as of the effective date of the termination or compensation for any other item, including but not limited to, unabsorbed overhead. **CONTRACTOR** shall require that all subcontracts which it enters related to this Contract likewise contain a termination for convenience clause which precludes the ability of any subcontractor to make claims against **CONTRACTOR** for damages due to breach of contract, lost profit on items of WORK not performed, or unabsorbed overhead, in the event of a convenience termination.

6.2 Termination for Nonappropriation:

6.2.1 All payments and WORK provided under this Contract are contingent upon the availability of the necessary public funding, which may include various internal and external sources. In the event that Carson City does not acquire and appropriate the funding necessary to perform in accordance with the terms of the Contract, the Contract shall automatically terminate upon **CITY'S** notice to **CONTRACTOR** of such nonappropriation, and no claim or cause of action may be based upon any such nonappropriation.

6.3 Cause Termination for Default or Breach:

6.3.1 A default or breach may be declared with or without termination.

6.3.2 This Contract may be terminated by either party upon written notice of default or breach to the other party as follows:

6.3.2.1 If **CONTRACTOR** fails to provide or satisfactorily perform any of the conditions, WORK, deliverables, goods, or any services called for by this Contract within the time requirements specified in this Contract or within any granted extension of those time requirements; or

6.3.2.2 If any state, county, city or federal license, authorization, waiver, permit, qualification or certification required by statute, ordinance, law, or regulation to be held by **CONTRACTOR** to provide the goods or WORK or any services required by this Contract is for any reason denied, revoked, debarred, excluded, terminated, suspended, lapsed, or not renewed; or

6.3.2.3 If **CONTRACTOR** becomes insolvent, subject to receivership, or becomes voluntarily or involuntarily subject to the jurisdiction of the bankruptcy court; or

6.3.2.4 If **CITY** materially breaches any material duty under this Contract and any such breach impairs **CONTRACTOR'S** ability to perform; or

6.3.2.5 If it is found by **CITY** that any quid pro quo or gratuities in the form of money, services, entertainment, gifts, or otherwise were offered or given by **CONTRACTOR**, or any agent or representative of **CONTRACTOR**, to any officer or employee of **CITY** with a view toward securing a contract or securing favorable treatment with respect to awarding, extending, amending, or making any determination with respect to the performing of such contract; or

6.3.2.6 If it is found by **CITY** that **CONTRACTOR** has failed to disclose any material conflict of interest relative to the performance of this Contract.

6.3.2.7 **CITY** may terminate this Contract if **CONTRACTOR**:

6.3.2.7.1 Fails to maintain bonding, Nevada State Contractors' Board License, State Industrial Insurance requirements or insurance policies for limits as defined in this Contract; or

6.3.2.7.2 Persistently or materially refuses or fails to supply properly skilled workers or proper materials; or

6.3.2.7.3 Fails to make payment to subcontractors for materials or labor in accordance with the respective agreements between **CONTRACTOR** and the subcontractors; or

6.3.2.7.4 Disregards laws, ordinances, or rules, regulations or order of a public authority having jurisdiction; or

6.3.2.7.5 Otherwise makes a material breach of a provision of this Contract; or

6.3.2.7.6 **CONTRACTOR** fails to maintain safe working conditions.

6.3.3 When any of the **Subsection 6.3.2.7.1 through 6.3.2.7.6, inclusive**, cause reasons exist, and without prejudice to any other rights or remedies of **CITY, CITY** may terminate this Contract at any time after giving **CONTRACTOR** and **CONTRACTOR'S** Surety seven (7) calendar days written notice of default or breach and intent to terminate and **CONTRACTOR'S** subsequent failure to timely correct as provided below, and subject to any prior rights of the Surety, **CITY** may:

6.3.3.1 Take possession of the site and of all materials, equipment, tools and construction equipment and machinery thereon owned by **CONTRACTOR**;

6.3.3.2 Accept assignment of subcontractors pursuant to this Contract (Contingent Assignment of Subcontracts to Carson City if this Contract is terminated); and

6.3.3.3 Finish the WORK by whatever reasonable method **CITY** may deem expedient.

6.3.4 If **CITY** terminates this Contract for any of the cause reasons stated in **Section 6.3**:

6.3.4.1 **CONTRACTOR** shall not be entitled to receive further payment until the WORK

is finished.

6.3.4.2 If the unpaid balance of the Contract Amount exceeds the cost of finishing the WORK including expenses made necessary thereby, such excess shall be paid to **CONTRACTOR**. If the costs of finishing the WORK exceed the unpaid balance, **CONTRACTOR** shall pay the difference to **CITY**. The amount to be paid to **CONTRACTOR** or **CITY**, as the case may be, shall survive termination of this Contract.

6.3.4.3 In the event of such cause termination, all monies due **CONTRACTOR** or retained under the terms of this Contract shall be held by **CITY**, however, such holdings will not release **CONTRACTOR** or its Sureties from liability for failure to fulfill this Contract. Any excess cost over and above the Contract Amount incurred by **CITY** arising from the termination of the operations of this Contract and the completion of the WORK by **CITY** as provided above shall be paid for by any available funds held by **CITY**. **CONTRACTOR** will be so credited with any surplus remaining after all just claims for such completion have been paid.

6.4 If at any time before completion of the WORK under this Contract, the WORK shall be stopped by an injunction of a court of competent jurisdiction or by order of any competent government authority, **CITY** may give immediate notice to **CONTRACTOR** to discontinue the WORK and terminate this Contract. **CONTRACTOR** shall discontinue the WORK in such manner, sequence, and at such times as **CITY** may direct. **CONTRACTOR** shall have no claim for damages for such discontinuance or termination, nor any claim for anticipated profits on the WORK thus dispensed with, nor for any claim for penalty, nor for any other claim such as unabsorbed overhead, except for the WORK actually performed up to the time of discontinuance, including any extra WORK ordered by **CITY** to be done.

6.5 Time to Correct (Declared Default or Breach):

6.5.1 Termination upon a declared default or breach may be exercised only after providing 7 (seven) calendar days written notice of default or breach, and the subsequent failure of the defaulting or breaching party, within five (5) calendar days of providing that default or breach notice, to provide evidence satisfactory to the aggrieved party demonstrating that the declared default or breach has been corrected. Time to correct shall run concurrently with any notice of default or breach and such time to correct is not subject to any stay with respect to the nonexistence of any Notice of Termination. Untimely correction shall not void the right to termination otherwise properly noticed unless waiver of the noticed default or breach is expressly provided in writing by the aggrieved party. There shall be no time to correct with respect to any notice of termination without cause, termination for nonappropriation or termination due to court injunction or order of a competent government authority.

6.6 Winding Up Affairs Upon Termination:

6.6.1 In the event of termination of this Contract for any reason, the parties agree that the provisions of this **Subsection 6.6** survive termination:

6.6.1.1 The parties shall account for and properly present to each other all claims for fees and expenses and pay those which are undisputed and otherwise not subject to set off under this Contract. Neither party may withhold performance of winding up provisions solely based on nonpayment of fees or expenses accrued up to the time of termination; and

6.6.1.2 **CONTRACTOR** shall satisfactorily complete WORK in progress at the agreed rate (or a pro rata basis if necessary) if so requested by **CITY**; and

6.6.1.3 **CONTRACTOR** shall execute any documents and take any actions necessary to effectuate an assignment of this Contract if so requested by **CITY**; and

6.6.1.4 **CONTRACTOR** shall preserve, protect, and promptly deliver into **CITY** possession all proprietary information in accordance with **Section 21.**

6.7 Notice of Termination:

6.7.1 Unless otherwise specified in this Contract, termination shall not be effective until seven (7) calendar days after a party has provided written notice of default or breach, or notice of without cause termination. Notice of Termination may be given at the time of notice of default or breach, or notice of without cause termination. Notice of Termination may be provided separately at any time after the running of the 7-day notice period, and such termination shall be effective on the date the Notice of Termination is provided to the party unless a specific effective date is otherwise set forth therein. Any delay in providing a Notice of Termination after the 7-day notice period has run without a timely correction by the defaulting or breaching party shall not constitute any waiver of the right to terminate under the existing notice(s).

7. DAVIS-BACON & RELATED ACTS 29 CFR PARTS 1,3,5,6,&7 AND NRS 338.070(5):

7.1 **CONTRACTOR** shall comply with Davis-Bacon Act and NRS 338.070(5). **CONTRACTOR** and each covered contractor or subcontractor must provide a weekly statement of wages paid to each of its employees engaged in covered WORK. The statement shall be executed by **CONTRACTOR** or subcontractor or by an authorized officer or employee of **CONTRACTOR** or subcontractor who supervised the payment of wages and shall be on the "Statement of Compliance" form. **CONTRACTOR** shall submit a Statement of Compliance that is prescribed by the Nevada Labor Commissioner or contains identical wording. Per NRS 338.070(6) the records maintained pursuant to subsection 5 must be open at all reasonable hours to the inspection of the public body (the **CITY'S** representative) awarding the contract. The **CONTRACTOR** engaged on the public work or subcontractor engaged on the public work shall ensure that a copy of each record for each calendar month is received by the public body awarding the contract (the **City**) **no later than 15 days after the end of the month**.

7.2 In the event federal funds are used for payment of all or part of this Contract, **CONTRACTOR** shall submit a Statement of Compliance form WH347 or a form with identical wording and a Statement of Compliance prescribed by the Nevada Labor Commissioner **within 7 days after the regular pay date for the pay period**. The original Statements shall be delivered to Carson City Public Works, 3505 Butti Way, Carson City, Nevada 89703, attention Davis-Bacon/Federal Funding Compliance.

7.3 CERTIFIED PAYROLLS FOR DAVIS-BACON AND PREVAILING WAGE PROJECTS:

7.3.1 The higher of the Federal or local prevailing wage rates for **CITY**, as established by the Nevada Labor Commission and the Davis-Bacon Act, shall be paid for all classifications of labor on this project WORK. Should a classification be missing from the Davis-Bacon rates the **CONTRACTOR** shall complete a request of authorization for additional classification or rate form SF1444 in its entirety and submit it to the **CITY** for approval and submission to the U.S. Department of Labor. Also, in accordance with NRS 338, the hourly and daily wage rates for the State and Davis-Bacon must be posted at the work site by **CONTRACTOR**. **CONTRACTOR** shall ensure that a copy of **CONTRACTOR'S** and subcontractor's certified payrolls for each calendar week are received by **CITY**.

7.3.2 Per NRS 338.070(5) a **CONTRACTOR** engaged on a public work and each subcontractor engaged on the public work shall keep or cause to be kept:

(a) An accurate record showing, for each worker employed by the contractor or subcontractor in connection with the public work:

(1) The name of the worker;

(2) The occupation of the worker;

(3) The gender of the worker, if the worker voluntarily agreed to specify that information pursuant to subsection 4, or an entry indicating that the worker declined to specify such information;

(4) The ethnicity of the worker, if the worker voluntarily agreed to specify that information pursuant to subsection 4, or an entry indicating that the worker declined to specify such information;

(5) If the worker has a driver's license or identification card, an indication of the state or other jurisdiction that issued the license or card; and

(6) The actual per diem, wages and benefits paid to the worker; and

(b) An additional accurate record showing, for each worker employed by the contractor or subcontractor in connection with the public work who has a driver's license or identification card:

(1) The name of the worker;

(2) The driver's license number or identification card number of the worker; and

(3) The state or other jurisdiction that issued the license or card.

7.3.3 The original payroll records shall be certified and shall be submitted weekly to Carson City Public Works, 3505 Butti Way, Carson City, Nevada 89703, attention Davis-Bacon/Federal Funding Compliance. Submission of such certified payrolls shall be a condition precedent for processing the monthly progress payment. **CONTRACTOR**, as General Contractor, shall collect the wage reports from the subcontractors and ensure the receipt of a certified copy of each weekly payroll for submission to **CITY** as one complete package.

7.3.4 Pursuant to NRS 338.060 and 338.070, **CONTRACTOR** hereby agrees to forfeit, as a penalty to **CITY**, not less than Twenty Dollars ($20) nor more than Fifty Dollars ($50) for each calendar day or portion thereof that each worker employed on the Contract is paid less than the designated rate for any WORK done under the Contract, by **CONTRACTOR** or any subcontractor under him/her, or is not reported to **CITY** as required by NRS 338.070.

8. FAIR EMPLOYMENT PRACTICES:

8.1 Pursuant to NRS 338.125, Fair Employment Practices, the following provisions must be included in any contract between **CONTRACTOR** and a public body such as **CITY**:

8.1.1 ***In connection with the performance of work under this Contract, CONTRACTOR agrees not to discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, sexual orientation, gender identity, or age, including, without limitation, with regard to employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including without limitation, apprenticeship.***

8.1.2 **CONTRACTOR** further agrees to insert this provision in all subcontracts hereunder, except subcontracts for standard commercial supplies or raw materials.

8.2 If the CITY was required by NRS 332.039(1) to advertise or request a proposal for this Agreement, by signing this Agreement, the CONTRACTOR provides a written certification that the CONTRACTOR is not currently engaged in, and during the Term shall not engage in, a Boycott of Israel. The term "Boycott of Israel" has the meaning ascribed to that term in Section 3 of Nevada Senate Bill 26

(2017). The CONTRACTOR shall be responsible for fines, penalties, and payment of any State of Nevada or federal funds that may arise (including those that the CITY pays, becomes liable to pay, or becomes liable to repay) as a direct result of the CONTRACTOR's non-compliance with this Section.

9. PREFERENTIAL EMPLOYMENT:

9.1 Unless, and except if, this Contract is funded in whole or in part by federal grant funding (*see* 40 C.F.R. § 31.36(c) *Competition)*, pursuant to NRS 338.130, in all cases where persons are employed in the construction of public works, preference must be given, the qualifications of the applicants being equal: (1) First: To persons who have been honorably discharged from the Army, Navy, Air Force, Marine Corps or Coast Guard of the United States, a reserve component thereof or the National Guard; and are citizens of the State of Nevada. (2) Second: To other citizens of the State of Nevada.

9.2 Unless, and except if, this Contract is funded in whole or in part by federal grant funding (*see* 40 CFR § 31.36(c) *Competition)*, in connection with the performance of WORK under this Contract, **CONTRACTOR** agrees to comply with the provisions of NRS 338.130 requiring certain preferences to be given to which persons are employed in the construction of a public work. If **CONTRACTOR** fails to comply with the provisions of NRS 338.130, pursuant to the terms of NRS 338.130(3), this Contract is void, and any failure or refusal to comply with any of the provisions of this section renders this Contract void.

10. REMEDIES:

Except as otherwise provided for by law or this Contract, the rights and remedies of the parties shall not be exclusive and are in addition to any other rights and remedies provided by law or equity, including, without limitation, actual damages, and to a prevailing party reasonable attorney's fees and costs. The parties agree that, in the event a lawsuit is filed and a party is awarded attorney's fees by the court, for any reason, the amount of recoverable attorney's fees shall not exceed the rate of $125 per hour. **CITY** may set off consideration against any unpaid obligation of **CONTRACTOR** to **CITY**.

11. LIMITED LIABILITY:

CITY will not waive and intends to assert available NRS Chapter 41 liability limitations in all cases. Contract liability of both parties shall not be subject to punitive damages. Liquidated damages shall not apply unless otherwise expressly provided for elsewhere in this Contract. Damages for any **CITY** breach shall never exceed the amount of funds appropriated for payment under this Contract, but not yet paid to **CONTRACTOR**, for the fiscal year budget in existence at the time of the breach. **CONTRACTOR'S** tort liability shall not be limited.

12. FORCE MAJEURE:

Neither party shall be deemed to be in violation of this Contract if it is prevented from performing any of its obligations hereunder due to strikes, failure of public transportation, civil or military authority, act of public enemy, accidents, fires, explosions, or acts of God, including, without limitation, earthquakes, floods, winds, or storms. In such an event the intervening cause must not be through the fault of the party asserting such an excuse, and the excused party is obligated to promptly perform in accordance with the terms of this Contract after the intervening cause ceases.

13. INDEMNIFICATION:

13.1 To the extent permitted by law, including, but not limited to, the provisions of NRS Chapter 41, each party shall indemnify, hold harmless and defend, not excluding the other's right to participate, the other party from and against all liability, claims, actions, damages, losses, and expenses, including but not limited to reasonable attorney's fees and costs, arising out of any alleged negligent or willful acts or omissions of the indemnifying party, its officers, employees and agents. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of the indemnity which would otherwise exist as to any party or person described in this Section.

13.2 Except as otherwise provided in **Subsection 13.4** below, the indemnifying party shall not be obligated to provide a legal defense to the indemnified party, nor reimburse the indemnified party for the

same, for any period occurring before the indemnified party provides written notice of the pending claim(s) or cause(s) of action to the indemnifying party, along with:

13.2.1 a written request for a legal defense for such pending claim(s) or cause(s) of action; and

13.2.2 a detailed explanation of the basis upon which the indemnified party believes that the claim or cause of action asserted against the indemnified party implicates the culpable conduct of the indemnifying party, its officers, employees, and/or agents.

13.3 After the indemnifying party has begun to provide a legal defense for the indemnified party, the indemnifying party shall not be obligated to fund or reimburse any fees or costs provided by any additional counsel for the indemnified party, including counsel through which the indemnified party might voluntarily choose to participate in its defense of the same matter.

13.4 After the indemnifying party has begun to provide a legal defense for the indemnified party, the indemnifying party shall be obligated to reimburse the reasonable attorney's fees and costs incurred by the indemnified party during the initial thirty (30) day period of the claim or cause of action, if any, incurred by separate counsel.

14. INDEPENDENT CONTRACTOR:

14.1 **CONTRACTOR**, as an independent contractor, is a natural person, firm or corporation who agrees to perform WORK for a fixed price according to his or its own methods and without subjection to the supervision or control of the **CITY**, except as to the results of the WORK, and not as to the means by which the WORK are accomplished.

14.2 It is mutually agreed that **CONTRACTOR** is associated with **CITY** only for the purposes and to the extent specified in this Contract, and in respect to performance of the contracted WORK pursuant to this Contract. **CONTRACTOR** is and shall be an independent contractor and, subject only to the terms of this Contract, shall have the sole right to supervise, manage, operate, control, and direct performance of the details incident to its duties under this Contract.

14.3 Nothing contained in this Contract shall be deemed or construed to create a partnership or joint venture, to create relationships of an employer-employee or principal-agent, or to otherwise create any liability for **CITY** whatsoever with respect to the indebtedness, liabilities, and obligations of **CONTRACTOR** or any other party.

14.4 **CONTRACTOR**, in addition to **Section 13** (INDEMNIFICATION), shall indemnify and hold **CITY** harmless from, and defend **CITY** against, any and all losses, damages, claims, costs, penalties, liabilities, expenses arising out of or incurred in any way because of, but not limited to, **CONTRACTOR'S** obligations or legal duties regarding any taxes, fees, assessments, benefits, entitlements, notice of benefits, employee's eligibility to work, to any third party, subcontractor, employee, state, local or federal governmental entity.

14.5 Neither **CONTRACTOR** nor its employees, agents, or representatives shall be considered employees, agents, or representatives of **CITY**.

15. INSURANCE REQUIREMENTS (GENERAL):

15.1 ***NOTICE: The following general insurance requirements shall apply unless these general requirements are altered by the specific requirements set forth in CITY'S solicitation for bid document, the adopted bid or other document incorporated into this Contract by the parties. These general insurance requirements do not include terms related to bond(s) required for this Contract, which are set forth in the CITY'S solicitation and below in this Contract following the execution pages.***

15.2 **CONTRACTOR**, as an independent contractor and not an employee of **CITY**, must carry policies of insurance in amounts specified and pay all taxes and fees incident hereunto. **CITY** shall have no liability except as specifically provided in this Contract.

15.3 **CONTRACTOR** shall not commence work before: (1) **CONTRACTOR** has provided the required evidence of insurance to **CITY** Purchasing and Contracts, and (2) **CITY** has approved the insurance policies provided by **CONTRACTOR**.

15.4 Prior approval of the insurance policies by **CITY** shall be a condition precedent to any payment of consideration under this Contract and **CITY'S** approval of any changes to insurance coverage during the course of performance shall constitute an ongoing condition subsequent this Contract. Any failure of **CITY** to timely approve shall not constitute a waiver of the condition.

15.5 *Insurance Coverage (15.6 through 15.23)*:

15.6 **CONTRACTOR** shall, at **CONTRACTOR'S** sole expense, procure, maintain and keep in force for the duration of this Contract the following insurance conforming to the minimum requirements specified below. Unless specifically specified herein or otherwise agreed to by **CITY**, the required insurance shall be in effect prior to the commencement of work by **CONTRACTOR** and shall continue in force as appropriate until the later of:

15.6.1 Final acceptance by **CITY** of the completion of this Contract; or

15.6.2 Such time as the insurance is no longer required by **CITY** under the terms of this Contract.

15.6.3 Any insurance or self-insurance available to **CITY** under its coverage(s) shall be in excess of and non-contributing with any insurance required from **CONTRACTOR. CONTRACTOR'S** insurance policies shall apply on a primary basis. Until such time as the insurance is no longer required by **CITY**, **CONTRACTOR** shall provide **CITY** with renewal or replacement evidence of insurance no less than thirty (30) calendar days before the expiration or replacement of the required insurance. If at any time during the period when insurance is required by this Contract, an insurer or surety shall fail to comply with the requirements of this Contract, as soon as **CONTRACTOR** has knowledge of any such failure, **CONTRACTOR** shall immediately notify **CITY** and immediately replace such insurance or bond with an insurer meeting the requirements.

15.7 *General Insurance Requirements (15.8 through 15.23*:

15.8 **Certificate Holder:** Each certificate shall list Carson City c/o Carson City Purchasing and Contracts, 201 N. Carson Street, Suite 2, Carson City, NV 89701 as a certificate holder.

15.9 **Additional Insured:** By endorsement to the general liability insurance policy evidenced by **CONTRACTOR**, The City and County of Carson City, Nevada, its officers, employees and immune contractors shall be named as additional insureds for all liability arising from this Contract.

15.10 **Waiver of Subrogation**: Each liability insurance policy, except for professional liability, shall provide for a waiver of subrogation in favor of the City.

15.11 **Cross-Liability**: All required liability policies shall provide cross-liability coverage as would be achieved under the standard ISO separation of insureds clause.

15.12 **Deductibles and Self-Insured Retentions**: Insurance maintained by **CONTRACTOR** shall apply on a first dollar basis without application of a deductible or self-insured retention unless otherwise specifically agreed to by **CITY**. Such approval shall not relieve **CONTRACTOR** from the obligation to pay any deductible or self-insured retention. Any deductible or self-insured retention shall not exceed $5,000.00 per occurrence, unless otherwise approved by **CITY**.

15.13 **Policy Cancellation**: Except for ten (10) calendar days notice for non-payment of premium, **CONTRACTOR** or its insurers must provide thirty (30) calendar days prior written notice to Carson City Purchasing and Contracts if any policy will be canceled, non-renewed or if required coverage and /or limits reduced or materially altered, and shall provide that notices required by this paragraph shall be sent by mail to Carson City Purchasing and Contracts, 201 N. Carson Street, Suite 2, Carson City, NV 89701. When available, each insurance policy shall be endorsed to provide thirty (30) days' notice of cancellation, except for ten (10) days' notice for non-payment of premium, to City.

15.14 **Approved Insurer**: Each insurance policy shall be issued by insurance companies authorized to do business in the State of Nevada or eligible surplus lines insurers under federal and Nevada law and having agents in Nevada upon whom service of process may be made, and currently rated by A.M. Best as "A-VII" or better.

15.15 **Evidence of Insurance:** Prior to commencement of work, **CONTRACTOR** must provide the following documents to Carson City Purchasing and Contracts, 201 North Carson Street, Suite 2, Carson City, NV 89701:

15.16 **Certificate of Insurance:** Contractor shall furnish City with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth herein The Acord 25 Certificate of Insurance form or a form substantially similar must be submitted to Carson City Purchasing and Contracts to evidence the insurance policies and coverages required of **CONTRACTOR**.

15.17 **Additional Insured Endorsement:** An Additional Insured Endorsement (CG20 10 or C20 26), signed by an authorized insurance company representative, must be submitted to Carson City Purchasing and Contracts to evidence the endorsement of **CITY** as an additional insured per **Subsection 15.9** (Additional Insured).

15.18 **Schedule of Underlying Insurance Policies:** If Umbrella or Excess policy is evidenced to comply with minimum limits, a copy of the Underlying Schedule from the Umbrella or Excess insurance policy may be required.

15.19 **Review and Approval:** Documents specified above must be submitted for review and approval by **CITY** Purchasing and Contracts prior to the commencement of work by **CONTRACTOR**. Neither approval by **CITY** nor failure to disapprove the insurance furnished by **CONTRACTOR** shall relieve **CONTRACTOR** of **CONTRACTOR'S** full responsibility to provide the insurance required by this Contract. Compliance with the insurance requirements of this Contract shall not limit the liability of **CONTRACTOR** or its sub-contractors, employees or agents to **CITY** or others, and shall be in addition to and not in lieu of any other remedy available to **CITY** under this Contract or otherwise. **CITY** reserves the right to request and review a copy of any required insurance policy or endorsement to assure compliance with these requirements.

15.20 **COMMERCIAL GENERAL LIABILITY INSURANCE**:

Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance with a limit of not less than $1,000,000 each occurrence.

15.20.1 *Minimum Limits required*:

15.20.2 Two Million Dollars ($2,000,000.00) - General Aggregate.

15.20.3 Two Million Dollars ($2,000,000.00) - Products & Completed Operations. Aggregate

15.20.4 One Million Dollars ($1,000,000.00) - Each Occurrence.

15.20.5 CGL insurance shall be written on ISO occurrence form CG 00 01 04 13 (or a substitute form providing equivalent coverage) and shall cover liability arising from premises, operations, products-completed operations, personal and advertising injury, and liability assumed under an insured contract [(including the tort liability of another assumed in a business contract)].

15.20.6 City and County of Carson City, Nevada, its officers, employees and immune contractors shall be included as an insured under the CGL, using ISO additional insured endorsement CG 20 10 or CG 20 26, or a substitute providing equivalent coverage, and under the commercial umbrella, if any.

15.20.7 This insurance shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded to City There shall be no endorsement or modification of the CGL to make it excess over other available insurance; alternatively, if the CGL states that it is excess or pro rata, the policy shall be endorsed to be primary with respect to the additional insured.

15.20.8 There shall be no endorsement or modification of the CGL limiting the scope of coverage for liability assumed under a contract.

15.20.9 Contractor waives all rights against City and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the commercial general liability or commercial umbrella liability insurance maintained pursuant to this Contract. Insurer shall endorse CGL policy as required to waive subrogation against City with respect to any loss paid under the policy

15.21 **BUSINESS AUTOMOBILE LIABILITY INSURANCE:**

15.21.1 *Minimum Limit required*:

15.21.2 Contractor shall maintain automobile liability and, if necessary, commercial umbrella liability insurance with a limit of not less than $1,000,000 each accident for bodily injury and property damage.

15.21.3 Such insurance shall cover liability arising out of owned, hired, and non-owned autos (as applicable). Coverage as required above shall be written on ISO form CA 00 01, CA 00 05, CA 00 25, or a substitute form providing equivalent liability coverage.

15.21.4 Contractor waives all rights against City and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the automobile liability or other liability insurance obtained by Contractor pursuant this Contract.

15.22 **PROFESSIONAL LIABILITY INSURANCE (Architects, Engineers and Land Surveyors)**

15.22.1 *Minimum Limit required*:

15.22.2 CONTRACTOR shall maintain professional liability insurance applying to all activities performed under this Contract with limits not less than One Million Dollars ($1,000,000.00) and Two Million Dollars ($2,000,000) in the aggregate.

15.22.3 Retroactive date: Prior to commencement of the performance of this Contract.

15.22.4 CONTRACTOR will maintain professional liability insurance during the term of this Contract and for a period of three (3) years after termination of this Contract unless waived by the City. In the event of non-renewal or other lapse in coverage during the term of this Contract or the three (3) year period described above, CONTRACTOR shall purchase Extended Reporting Period coverage for claims arising out of CONTRACTOR's negligence acts, errors and omissions committed during the term of the Professional Liability Policy. The Extended Reporting Period shall continue through a minimum of three (3) years after termination date of this Contract.

15.22.5 A certified copy of this policy may be required.

15.23 **WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY INSURANCE:**

15.23.1 **CONTRACTOR** shall provide workers' compensation insurance as required by NRS Chapters 616A through 616D inclusive and Employer's Liability insurance with a minimum limit not less than $1,000,000 each accident for bodily injury by accident or $1,000,000 each employee for bodily injury by disease

15.23.2 **CONTRACTOR** may, in lieu of furnishing a certificate of an insurer, provide an affidavit indicating that **CONTRACTOR** is a sole proprietor; that **CONTRACTOR** will not use the services of any employees in the performance of this Contract; that **CONTRACTOR** has elected to not be included in the terms, conditions, and provisions of NRS Chapters 616A-616D, inclusive; and that **CONTRACTOR** is otherwise in compliance with the terms, conditions, and provisions of NRS Chapters 616A-616D, inclusive.

15.23.3 **CONTRACTOR** waives all rights against City and its agents, officers, directors, and employees for recovery of damages to the extent these damages are covered by the workers'

compensation and employer's liability or commercial umbrella liability insurance obtained by Contractor pursuant to this Contract. Contractor shall obtain an endorsement equivalent to WC 00 03 13 to affect this waiver.

16. BUSINESS LICENSE:

16.1 **CONTRACTOR** shall not commence work before **CONTRACTOR** has provided a copy of his Carson City business license to Carson City Purchasing and Contracts.

16.2 The Carson City business license shall continue in force until the later of: (1) final acceptance by **CITY** of the completion of this Contract; or (2) such time as the Carson City business license is no longer required by **CITY** under the terms of this Contract.

17. COMPLIANCE WITH LEGAL OBLIGATIONS:

CONTRACTOR shall procure and maintain for the duration of this Contract any state, county, city, or federal license, authorization, waiver, permit, qualification or certification required by statute, ordinance, law, or regulation to be held by **CONTRACTOR** to provide the goods or WORK or any services of this Contract. **CONTRACTOR** will be responsible to pay all government obligations, including, but not limited to, all taxes, assessments, fees, fines, judgments, premiums, permits, and licenses required or imposed by law or a court. Real property and personal property taxes are the responsibility of **CONTRACTOR** in accordance with NRS Chapter 361 generally and NRS 361.157 and 361.159, specifically regarding for profit activity. **CONTRACTOR** agrees to be responsible for payment of any such government obligations not paid by its subcontractors during performance of this Contract. **CITY** may set-off against consideration due any delinquent government obligation.

18. WAIVER OF BREACH:

Failure to declare a breach or the actual waiver of any particular breach of this Contract or its material or nonmaterial terms by either party shall not operate as a waiver by such party of any of its rights or remedies as to any other breach.

19. SEVERABILITY:

If any provision contained in this Contract is held to be unenforceable by a court of law or equity, this Contract shall be construed as if such provision did not exist and the nonenforceability of such provision shall not be held to render any other provision or provisions of this Contract unenforceable.

20. ASSIGNMENT / DELEGATION:

To the extent that any assignment of any right under this Contract changes the duty of either party, increases the burden or risk involved, impairs the chances of obtaining the performance of this Contract, attempts to operate as a novation, or includes a waiver or abrogation of any defense to payment by **CITY,** such offending portion of the assignment shall be void, and shall be a breach of this Contract. **CONTRACTOR** shall neither assign, transfer nor delegate any rights, obligations or duties under this Contract without the prior written approval of **CITY**. The parties do not intend to benefit any third party beneficiary regarding their respective performance under this Contract.

21. CITY OWNERSHIP OF PROPRIETARY INFORMATION:

21.1 Any files, reports, histories, studies, tests, manuals, instructions, photographs, negatives, blue prints, plans, maps, data, system designs, computer programs, computer codes, and computer records (which are intended to be consideration under this Contract), or any other documents or drawings, prepared or in the course of preparation by **CONTRACTOR** (or its subcontractors) in performance of its obligations under this Contract shall be the exclusive property of **CITY** and all such materials shall be delivered into **CITY** possession by **CONTRACTOR** upon completion, termination, or cancellation of this Contract. **CONTRACTOR** shall not use, willingly allow, or cause to have such materials used for any purpose other than performance of **CONTRACTOR'S** obligations under this Contract without the prior written consent of **CITY**. Notwithstanding the foregoing, **CITY** shall have no proprietary interest in any materials licensed for use by **CITY** that are subject to patent, trademark or copyright protection.

21.2 **CITY** shall be permitted to retain copies, including reproducible copies, of **CONTRACTOR'S**

drawings, specifications, and other documents for information and reference in connection with this Contract.

21.3 **CONTRACTOR'S** drawings, specifications and other documents shall not be used by **CITY** or others without expressed permission of **CONTRACTOR**.

22. PUBLIC RECORDS:

Pursuant to NRS 239.010, information or documents received from **CONTRACTOR** may be open to public inspection and copying. **CITY** will have the duty to disclose unless a particular record is made confidential by law or a common law balancing of interests. **CONTRACTOR** may clearly label specific parts of an individual document as a "trade secret" or "confidential" in accordance with NRS 332.061, provided that **CONTRACTOR** thereby agrees to indemnify and defend **CITY** for honoring such a designation. The failure to so label any document that is released by **CITY** shall constitute a complete waiver of any and all claims for damages caused by any release of the records.

23. CONFIDENTIALITY:

CONTRACTOR shall keep confidential all information, in whatever form, produced, prepared, observed or received by **CONTRACTOR** to the extent that such information is confidential by law or otherwise required by this Contract.

24. FEDERAL FUNDING:

24.1 *In the event federal grant funds are used for payment of all or part of this Contract*:

24.1.1 **CONTRACTOR** certifies, by signing this Contract, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency. This certification is made pursuant to the regulations implementing Executive Order 12549, Debarment and Suspension, 28 C.F.R. pt. 67, § 67.510, as published as pt. VII of the May 26, 1988, Federal Register (pp. 19160-19211), and any relevant program-specific regulations. This provision shall be required of every subcontractor receiving any payment in whole or in part from federal funds.

24.1.2 **CONTRACTOR** and its subcontractors must be registered in the US Government System for Award Management (SAM) for verification on projects with federal funding

24.1.3 **CONTRACTOR** and its subcontractors shall comply with all terms, conditions, and requirements of the Americans with Disabilities Act of 1990 (P.L. 101-136), 42 U.S.C. 12101, as amended, and regulations adopted thereunder contained in 28 C.F.R. 26.101-36.999, inclusive, and any relevant program-specific regulations.

24.1.4 **CONTRACTOR** and its subcontractors shall comply with the requirements of the Civil Rights Act of 1964, as amended, the Rehabilitation Act of 1973, P.L. 93-112, as amended, and any relevant program-specific regulations, and Executive Order 11478 (July 21, 2014) and shall not discriminate against any employee or offeror for employment because of race, national origin, creed, color, sex, sexual orientation, gender identity, religion, age, disability or handicap condition (including AIDS and AIDS-related conditions).

24.14.1 If and when applicable to the particular federal funding and the Scope of Work under this Contract, **CONTRACTOR** and its subcontractors shall comply with: American Iron and Steel (AIS) provisions of P.L. 113-76, Consolidated Appropriations Act, 2014, Section 1605 – Buy American (100% Domestic Content of iron, steel and manufactured goods); Federal Highway Administration (FHWA) 23 U.S.C. § 313 – Buy America, 23 C.F.R. §635.410 (100% Domestic Content of steel, iron and manufactured products); Federal Transit Administration (FTA)49 U.S.C. § 5323(j), 49 C.F.R. Part 661 – Buy America Requirements (See 60% Domestic Content for buses and other Rolling Stock).

25. LOBBYING:

25.1 The parties agree, whether expressly prohibited by federal law, or otherwise, that no funding associated with this Contract will be used for any purpose associated with or related to lobbying or influencing or attempting to lobby or influence for any purpose the following:

25.1.1 Any federal, state, county or local agency, legislature, commission, council or board;

25.1.2 Any federal, state, county or local legislator, commission member, council member, board member, or other elected official; or

25.1.3 Any officer or employee of any federal, state, county or local agency; legislature, commission, council or board.

26. GENERAL WARRANTY:

CONTRACTOR warrants that it will perform all WORK required hereunder in accordance with the prevailing standard of care by exercising the skill and care normally required of individuals performing the same or similar WORK, under the same or similar circumstances, in the State of Nevada.

27. PROPER AUTHORITY:

The parties hereto represent and warrant that the person executing this Contract on behalf of each party has full power and authority to enter into this Contract. **CONTRACTOR** acknowledges that this Contract is effective only after approval by the Carson City Regional Transportation Commission and only for the period of time specified in this Contract. Any WORK performed by **CONTRACTOR** before this Contract is effective or after it ceases to be effective is performed at the sole risk of **CONTRACTOR**.

28. ALTERNATIVE DISPUTE RESOLUTION (Public Work):

If the WORK under this Contract involves a "public work" as defined under NRS 338.010(17), then pursuant to NRS 338.150, a public body charged with the drafting of specifications for a public work shall include in the specifications a clause requiring the use of a method of alternative dispute resolution ("ADR") before initiation of a judicial action if a dispute arising between the public body and the **CONTRACTOR** engaged on the public work cannot otherwise be settled. Therefore, unless ADR is otherwise provided for by the parties in any other incorporated attachment to this Contract, in the event that a dispute arising between **CITY** and **CONTRACTOR** regarding that public work cannot otherwise be settled, **CITY** and **CONTRACTOR** agree that, before judicial action may be initiated, **CITY** and **CONTRACTOR** will submit the dispute to non-binding mediation. **CITY** shall present **CONTRACTOR** with a list of three potential mediators. **CONTRACTOR** shall select one person to serve as the mediator from the list of potential mediators presented by **CITY**. The person selected as mediator shall determine the rules governing the mediation.

29. GOVERNING LAW / JURISDICTION:

This Contract and the rights and obligations of the parties hereto shall be governed by, and construed according to, the laws of the State of Nevada, without giving effect to any principle of conflict-of-law that would require the application of the law of any other jurisdiction. **CONTRACTOR** consents and agrees to the jurisdiction of the courts of the State of Nevada located in Carson City, Nevada for enforcement of this Contract.

30. ENTIRE CONTRACT AND MODIFICATION:

This Contract and its integrated attachment(s) constitute the entire Contract of the parties and such are intended as a complete and exclusive statement of the promises, representations, negotiations, discussions, and other Contracts that may have been made in connection with the subject matter hereof. Unless an integrated attachment to this Contract specifically displays a mutual intent to amend a particular part of this Contract, general conflicts in language between any such attachment and this Contract shall be construed consistent with the terms of this Contract. Unless otherwise expressly authorized by the terms of this Contract, no modification or amendment to this Contract shall be binding upon the parties unless the same is in writing and signed by the respective parties hereto and approved by the Carson City Regional Transportation Commission. Conflicts in language between this Contract and any other agreement between **CITY** and **CONTRACTOR** on this same matter shall be construed consistent with the terms of this Contract. The parties agree that each has had their respective counsel review this Contract which shall be construed as if it was jointly drafted.

CONSTRUCTION INDEPENDENT CONTRACTOR AGREEMENT
Contract No: 20300007
Title: CDBG Airport Road ADA Improvement Project

31. ACKNOWLEDGMENT AND EXECUTION:

This Contract may be executed in counterparts. The parties hereto have caused this Contract to be signed and intend to be legally bound thereby as follows:

AND ALL SUPPLEMENTAL AGREEMENTS AMENDING OR EXTENDING THE WORK CONTEMPLATED.

ACKNOWLEDGMENT AND EXECUTION:

In witness whereof, the parties hereto have caused this Contract to be signed and intend to be legally bound thereby.

CITY
Attn: Carol Akers
Purchasing and Contracts Department
201 North Carson Street, Suite 2
Carson City, Nevada 89701
Telephone: 775-283-7362
Fax: 775-887-2286
CAkers@carson.org

By:_____
Sheri Russell, Chief Financial Officer

Dated _____

CITY'S LEGAL COUNSEL
Carson City District Attorney
I have reviewed this Contract and approve as to its legal form.

By:_____
Deputy District Attorney

Dated _____

CONTRACTOR will not be given authorization to begin work until this Contract has been signed by Purchasing and Contracts

BY: Carol Akers
Purchasing & Contracts Administrator

By: _____

Dated _____

Contract# 20300007
Project# P303519011
Account # 2750620 507010

PROJECT CONTACT PERSON:

Brian Elder, Project Manager
Telephone: 775-283-7586

CONSTRUCTION INDEPENDENT CONTRACTOR AGREEMENT
Contract No: 20300007
Title: CDBG Airport Road ADA Improvement Project

Undersigned deposes and says under penalty of perjury: That he/she is **CONTRACTOR** or authorized agent of **CONTRACTOR**; that he/she has read the foregoing Contract; and that he/she understands the terms, conditions and requirements thereof.

CONTRACTOR
BY: Daniel F. Coons
TITLE: Owner
FIRM: Coons Construction LLC
CARSON CITY BUSINESS LICENSE #: BL 004234-2020
NEVADA CONTRACTORS LICENSE #: 38006A & 39195A
Address: PO Box 1460
City: Dayton **State:** NV **Zip Code:** 89403
Telephone: 775-246-1660
E-mail Address: kelly@coons.biz

_____
(Signature of Contractor)

DATED _____

STATE OF_____)
)ss
County of _____)

Signed and sworn (or affirmed before me on this _____day of _____, 2020.

_____
(Signature of Notary)

(Notary Stamp)

CONSTRUCTION INDEPENDENT CONTRACTOR AGREEMENT
Contract No: 20300007
Title: CDBG Airport Road ADA Improvement Project

CONTRACT ACCEPTANCE AND EXECUTION:

The Regional Transportation Commission for Carson City, Nevada at their publicly noticed meeting of July 8, 2020, approved the acceptance of the attached Contract hereinbefore identified as **CONTRACT No. 20300007** and titled **CDBG Airport Road ADA Improvement Project**. Further, the Regional Transportation Commission authorizes the Chairperson to set his hand to this document and record his signature for the execution of this Contract in accordance with the action taken.

CARSON CITY, NEVADA

_____
BRAD BONKOWSKI, CHAIRPERSON

DATED this 8th day of July, 2020

ATTEST:

_____
AUBREY ROWLATT, CLERK-RECORDER

DATED this 8th day of July, 2020

PERFORMANCE BOND

Doc. No. 2151
(Rev. 11-17-99)

Bond #:_____

KNOW ALL MEN BY THESE PRESENTS, that I/we_____
_____as Principal, hereinafter called CONTRACTOR, and
_____
a corporation duly organized under the laws of _____, as Surety, hereinafter called the Surety, are held and firmly bound unto Carson City, Nevada a consolidated municipality of the State of Nevada, hereinafter called CITY, for the sum of $_____ (state sum in Words)_____
_____ for the payment whereof CONTRACTOR and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, CONTRACTOR has by written agreement dated _____, entered into a contract with CITY for **BID# 20300007** and titled **CDBG Airport Road ADA Improvement Project** in accordance with drawings and specifications prepared by CITY and which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if CONTRACTOR shall promptly and faithfully perform said Contract then this obligation shall be null and void; otherwise it shall remain in full force and effect. The Surety hereby waives notice of any alteration or extension of time made by CITY and its obligation is not affected by any such alteration or extension provided the same is within the scope of the Contract. Whenever CONTRACTOR shall be, and is declared by CITY to be in default under the Contract, CITY having performed CITY'S obligations thereunder, the Surety may promptly remedy the default or shall promptly:

1) Complete the Contract in accordance with its terms and conditions; or

2) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by CITY and the Surety jointly of the lowest responsive, responsible bidder, arrange for a contract between such bidder and CITY, and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract price, but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Contract price", as used in this paragraph, shall mean the total amount payable by CITY to CONTRACTOR under the Contract and any amendments thereto, less the amount properly paid by CITY to CONTRACTOR. No right of action shall accrue on this bond to or for the use of any person or corporation other than CITY or successors of CITY.

PERFORMANCE BOND

Continued for **BID# 20300007** and titled **CDBG Airport Road ADA Improvement Project**

BY:	**(Signature of Principal)**
TITLE:	
FIRM:	
Address:	**L.S.**
City, State, Zip:	
Phone:	
Printed Name of Principal:	
Attest By:	**(Signature of Notary)**
Subscribed and Sworn before me this day of	**,20____**

CLAIMS UNDER THIS BOND MAY BE ADDRESSED TO:

Name of Surety:	
Address:	
City:	
State/Zip Code:	
Name:	
Title:	
Telephone:	
Surety's Acknowledgment:	
By:	

NOTICE:

No substitution or revision to this bond form will be accepted. Sureties must be authorized to do business in and have an agent for service of process in the State of Nevada. Certified copy of Power of Attorney must be attached.

LABOR AND MATERIAL PAYMENT BOND

Bond #:_____

(Rev. 11-17-99)

KNOW ALL MEN BY THESE PRESENTS, that I/we _____ _____as Principal, hereinafter called CONTRACTOR, and _____ a corporation duly organized under the laws of the State of Nevada, as Surety, hereinafter called the Surety, are held and firmly bound unto Carson City, Nevada a consolidated municipality of the State of Nevada, hereinafter called CITY, for the $_____Dollars (state sum in words)_____ _____ for the payment whereof CONTRACTOR and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, CONTRACTOR has by written agreement dated _____ entered into a contract with CITY for **BID# 20300007** and titled **CDBG Airport Road ADA Improvement Project** in accordance with drawings and specifications prepared by CITY and which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if CONTRACTOR shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1) A claimant is defined as one having a direct contract with CONTRACTOR or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental of equipment directly applicable to the Contract.

2) The above-named Principal and Surety hereby jointly and severally agree with CITY that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. CITY shall not be liable for the payment of any costs or expenses of any such suit.

3) No suit or action shall be commenced hereunder by any claimant:

   a) Unless claimant, other than one having a direct contract with CONTRACTOR, shall have given written notice to any two of the following: CONTRACTOR, CITY, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be personally served or served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal at any place the Principal maintains an office or conducts its business.

   b) After the expiration of one (1) year following the date on which the last of the labor was performed or material was supplied by the party bringing suit.

   c) Other than in a court of competent jurisdiction for the county or district in which the construction Contract was to be performed.

LABOR AND MATERIAL PAYMENT BOND

Continued for **BID# 20300007** and titled **CDBG Airport Road ADA Improvement Project**

4) The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

BY:	**(signature of Principal)**
TITLE:	
FIRM:	
Address:	**L.S.**
City, State, Zip:	
Phone:	
Printed Name of Principal:	
Attest by:	**(signature of notary)**
Subscribed and Sworn before me this day of	**, 20___**

CLAIMS UNDER THIS BOND MAY BE ADDRESSED TO:

Name of Surety:	
Address:	
City:	
State/Zip Code:	
Name:	
Title:	
Telephone:	
Surety's Acknowledgment:	
By:	

NOTICE:

No substitution or revision to this bond form will be accepted. Sureties must be authorized to do business in and have an agent for service of process in the State of Nevada. Certified copy of Power of Attorney must be attached.

BID BOND **TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA**
Hartford, Connecticut 06183

KNOWN ALL BY THESE PRESENTS, That we, Coons Construction, LLC., as Principal, and Travelers Casualty and Surety Company of America, as Surety, are held and firmly bound unto City of Carson City, as Obligee, in the sum of *****Not to exceed five percent of the bid amount***** Dollars ($****Not to exceed 5% of the bid amount*****) for the payment of which we bind ourselves, and our successors and assigns, jointly and severally, as provided herein.

WHEREAS, Principal has submitted or is about to submit a bid to the Obligee on a contract for Airport ADA Improvements; PWP CC-2020-311/AD Bid 20300007/Proj P303519011 ("Project").

NOW, THEREFORE, the condition of this bond is that if Obligee accepts Principal's bid, and Principal enters into a contract with Obligee in conformance with the terms of the bid and provides such bond or bonds as may be specified in the bidding or contract documents, then this obligation shall be void; otherwise Principal and Surety will pay to Obligee the difference between the amount of Principal's bid and the amount for which Obligee shall in good faith contract with another person or entity to perform the work covered by Principal's bid, but in no event shall Surety's and Principal's liability exceed the penal sum of this bond.

Signed this 12th day of June, 2020.

Coons Construction, LLC
(Principal)

By: _____

Travelers Casualty and Surety Company of America

By: _____
Sandra R. Black, Attorney-in-Fact

Exhibit A

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

County of Sacramento }

On 6/12/2020 (Date) before me, E. Johnson (Insert Name of Notary exactly as it appears on the official seal), Notary Public,

personally appeared Sandra R. Black (Name(s) of Signer(s)),

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

Witness my hand and official seal.

Signature E. Johnson (Signature of Notary Public)

E. JOHNSON
COMM # 2310061
NOTARY PUBLIC • CALIFORNIA
SACRAMENTO COUNTY
Comm. Exp. OCT. 22, 2023
MGC1 MGC1

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of the form to another document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: Sandra R. Black
- ☐ Individual
- ☐ Corporate Officer — Title(s): _____
- ☐ Partner ☐ Limited ☐ General
- ☑ Attorney in Fact
- ☐ Trustee
- ☐ Guardian or Conservator
- ☐ Other: _____

Signer is Representing:
Travelers Casualty and Surety Company of America

RIGHT THUMBPRINT OF SIGNER
Top of thumb here

Signer's Name: _____
- ☐ Individual
- ☐ Corporate Officer — Title(s): _____
- ☐ Partner ☐ Limited ☐ General
- ☐ Attorney in Fact
- ☐ Trustee
- ☐ Guardian or Conservator
- ☐ Other: _____

Signer is Representing:

RIGHT THUMBPRINT OF SIGNER
Top of thumb here

Exhibit A

TRAVELERS

Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Sandra R. Black,** of **Concord, California**, their true and lawful Attorney-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **3rd** day of **February, 2017.**

State of Connecticut

City of Hartford ss.

By: _____
Robert L. Raney, Senior Vice President

On this the **3rd** day of **February, 2017**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June, 2021**

Marie C Tetreault
Marie C. Tetreault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 12 day of June, 2020

Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney-in-Fact and the details of the bond to which the power is attached.

COONS CONSTRUCTION LLC

SIGNING AUTHORITY FOR LLC OFFICIALS

DATE: APRIL 1, 2009

THE FOLLOWING CORPORATE OFFICIALS ARE AUTHORIZED TO SIGN, OR TO APPOINT PERSONS TO SIGN, ALL DOCUMENTS UNLESS OTHERWISE SPECIFIED, SUBMITTED ON THE CORPORATION/LLC'S FOR PURPOSES OF BIDDING AND CONTRACTS.

Daniel F Coons

DANIEL F COONS

Kelly L Coons

KELLY L COONS

THIS AUTHORITY WILL REMAIN IN EFFECT UNTIL FORMALLY CHANGED OR RESCINDED BY LLC OFFICIALS.

Exhibit A

BID PROPOSAL

BID# 20300007
BID TITLE: "CDBG-Airport Road ADA Improvement Project"

NOTICE: No substitution or revision to this Bid Proposal form will be accepted. Carson City will reject any Bid that is received that has changes or alterations to this document. Although the Prevailing Wages are provided in this bid document, the bidder is responsible to verify with the Labor Commissioner if any addendums have been issued. The successful bidder will be required to provide the current Prevailing Wages used in preparation of their bid within 24 hours of bid submission.

PRICES will be valid for sixty (60) calendar days after the bid opening which is indicated in the Notice to Contractors.

COMPLETION of this project is expected **PURSUANT TO THE BID DOCUMENTS.**

BIDDER acknowledges receipt of 2 Addendums.

BP.1 SUMMARY

	Description	Scheduled Value	Unit	Unit Price	Total Price
	Schedule A:				
1	Mobilization, Demobilization and Clean-Up	1	LS	14092.97	14092.97
2	Stormwater Protection	1	LS	1724.00	1724.00
3	Traffic Control	1	LS	17399.00	17399.00
4	Demo and Remove Existing AC Pavement and Haul to Carson City Landfill (Free dump tickets provided by the City)	3,510	SF	3.05	10,705.50
5	Demo and Remove Existing PCC Curb, Gutters, Sidewalk and Valley Gutter and Haul to Carson City Landfill (Free dump tickets provided by the City)	1,340	SF	3.18	4,261.20
6	Construct Type 1 Driveway Apron (Including PCC Transition)	820	SF	14.85	12,177.00
7	Construct AC Pavement Driveway Transition	140	SF	12.02	1,682.80
8	Construct Type 1 PCC Curb & Gutter	330	LF	57.94	19,120.20
9	Construct Valley Gutter Spandrel	360	SF	24.73	8902.80
10	Construct Valley Gutter	220	SF	21.93	4824.60
11	Construct Parallel Pedestrian Curb Ramp	230	SF	26.42	6076.60
12	Construct Mid-Block Pedestrian Curb Ramps	265	SF	27.81	7369.65
13	Construct Type A PCC Sidewalk	1,515	SF	9.85	14922.75
14	Construct Permanent AC Pavement Patch	3,600	SF	8.07	29,052.00
15	Lower and Raise Manhole Rim to Finish Grade	2	EA	1724.14	3448.28
16	Lower and Raise Water Valve Can to Finish Grade	1	EA	919.54	919.54
17	Relocate Existing Sign	2	EA	344.83	689.66
18	Remove Sign	1	EA	172.41	172.41
19	Pavement Striping	1	LS	3241.38	3241.38
20	Install 2.5" Telespar Sign Post (Carson City to Purchase and Install all RRFB Signs and Equipment-Do Not Include RRFB Installation in the Bid Price)	2	EA	344.83	689.66
BP.2	**Total Base Bid Price (Schedule A)**				161,472.00

BID PROPOSAL

BP.3 Total Base (Schedule (A) Bid Price Written in Words:

one hundred sixty one thousand, four hundred seventy two + no cents

BP.4 BIDDER INFORMATION:

Company Name:	COONS CONSTRUCTION LLC
Federal ID No & DUNS No.:	26-4176472 + 086089492
Mailing Address:	POBOX 1460,
City, State, Zip Code:	DAYTON, NV 89403
Complete Telephone Number:	775.246.1660
Complete Fax Number:	775.246-1669
Fax Number including area code:	775 246-1669
E-mail:	kelly @ coons.biz

Contact Person / Title:	Ryan Coons, PM
Mailing Address:	POBOX 1460
City, State, Zip Code:	DAYTON, NV 89403
Complete Telephone Number:	775 2461660
Complete Fax Number:	775 2461669
E-mail Address:	ryan @ coons.biz

BP.5 LICENSING INFORMATION:

Nevada State Contractor's License Number:	38006A + 39195A
License Classification(s):	B2 ; A7,9,13,15,19
Limitation(s) of License:	$6,400,000 ; 6,400,000
Date Issued:	3/9/2009 ; 3/9/2009
Date of Expiration:	3/31/2021 ; 3/31/2021
Name of Licensee:	COONS CONSTRUCTION LLC
Carson City Business License Number:	BL-004234-2020
Date Issued:	1/1/2020

Exhibit A

BID PROPOSAL

Date of Expiration:	12/31/2020
Name of Licensee:	COONS CONSTRUCTION LLC

BP.6 DISCLOSURE OF PRINCIPALS:

Individual and/or Partnership:

Owner 1) Name:	DANIEL F COONS
Address:	100 INDUSTRIAL PKWY
City, State, Zip Code:	MOUNDHOUSE, NV 89706
Telephone Number:	775-721-8822
Owner 2) Name:	Kelly Coons
Address:	100 INDUSTRIAL PKWY
City, State, Zip Code:	MOUND HOUSE, NV 89706
Telephone Number:	775-721-8823
Other 1) Title:	X
Name	
Other 2) Title:	X
Name:	

Corporation:

State in which Company is Incorporated:	NV
Date Incorporated:	
Name of Corporation:	COONS CONSTRUCTION LLC
Mailing Address	PO BOX 1460
City, State, Zip Code:	DAYTON, NV 89403
Telephone Number:	775 246 1660
President's Name:	Daniel Coons
Vice-President's Name:	Kelly Coons
Other 1) Name & Title:	NA

BID PROPOSAL

BP.7 MANAGEMENT AND SUPERVISORY PERSONNEL:

Persons and Positions	Years With Firm
Name 1) Daniel Coons	26
Title 1) Managing Member	
Name 2) Kelly Coons	26
Title 2) Managing Member	
Name 3)	
Title 3)	
Name 4)	
Title 4)	
Name 5)	
Title 5)	
Name 6)	
Title 6)	

(If additional space is needed, attach a separate page)

BID PROPOSAL

BP.14 REFERENCES:

Instructions:
List at least three (3) contracts of a similar nature performed by your firm in the last three (3) years. If **NONE**, use your Company's letterhead (and submit with your bid proposal) to list what your qualifications are for this contract. Carson City reserves the right to contact and verify, with any and all references listed, the quality of and the degree of satisfaction for such performance.

Clients: (if additional space is needed attach a separate page)

Company Name 1):	Miles Construction
Contract Person:	Bill Miles
Mailing Address:	61 INDUSTRIAL PKWY
City, State, Zip Code:	CARSON CITY, NV 89706
Complete Telephone Number:	775 246 3722
E-Mail Address:	wdmiles@milesconst.com
Project Title:	River Vista Storage
Amount of Contract:	170K
Scope of Work:	Storage Facility Addition
Company Name 2):	Comstock RV + Storage
Contract Person:	Phil Cowee
Mailing Address:	246 Dayton Valley Rd #106
City, State, Zip Code:	Dayton, NV 89403
Complete Telephone Number:	775
E-Mail Address:	pcowee@hotmail.com
Project Title:	Comstock Storage
Amount of Contract:	1,797,833
Scope of Work:	Storage Facilety Build

BID PROPOSAL

BP.8 REFERENCES:

Instructions:
List at least three (3) contracts of a similar nature performed by your firm in the last three (3) years. If **NONE**, use your Company's letterhead (and submit with your bid proposal) to list what your qualifications are for this contract. Carson City reserves the right to contact and verify, with any and all references listed, the quality of and the degree of satisfaction for such performance.

Clients: (if additional space is needed attach a separate page)

Company Name 1):	Miles Construction
Contract Person:	Bill Miles
Mailing Address:	61 Industrial Pkwy
City, State, Zip Code:	CARSON CITY, NV 89706
Complete Telephone Number:	775 246 3722
E-Mail Address:	wdmiles@milesconst.com
Project Title:	RIVER VISTA STORAGE
Amount of Contract:	170k
Scope of Work:	Site Improvements
Company Name 2):	Comstock RV + STORAGE
Contract Person:	Phil Cawee
Mailing Address:	246 Dayton Valley Rd #106
City, State, Zip Code:	Dayton, NV 89403
Complete Telephone Number:	775-742-1441
E-Mail Address:	pcawee@hotmail.com
Project Title:	Comstock Storage
Amount of Contract:	1.7M
Scope of Work:	Site Improvements

BID PROPOSAL

Company Name 3):	F+G Construction
Contract Person:	Gary Gladwill
Mailing Address:	259 Riverboat Rd
City, State, Zip Code:	Dayton, NV 89403
Complete Telephone Number:	775 690 2419
E-Mail Address:	ggaldwill@earthlink.net
Project Title:	NV Recycling
Amount of Contract	162K
Scope of Work:	Site Improvements
Company Name 4):	
Contract Person:	
Mailing Address:	
City, State, Zip Code:	
Complete Telephone Number:	
E-Mail Address:	
Project Title:	
Amount of Contract:	
Scope of Work:	

BID PROPOSAL

BP. 9 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS PRIMARY COVERED TRANSACTIONS

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal, State or Local department or agency.

b) Have not within a three-year period preceding this bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or Local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.

c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or Local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

d) Have not within a three-year period preceding this bid had one or more public transactions (Federal, State or Local) terminated for cause or default.

2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this bid.

Daniel F Coons — Signature of Authorized Certifying Official

Managing Member — Title

Daniel F Coons — Printed Name

6/12/2020 — Date

I am unable to certify to the above statement. My explanation is attached.

_____ Signature

_____ Date

BIDDER'S SAFETY INFORMATION

Bidder's Safety Factors:

Year	"E-Mod" Factor[1]	OSHA Incident Rate[2]
2018	.78	0
2019	.78	0

[1] E-Mod (Experience Modification) Factors are issued by the Employer's Insurance Company of Nevada.

[2] OSHA Incident Rate is the number of OSHA Recordable Accidents per 100 employees and is calculated as the number of accidents divided by 208,000.

BID PROPOSAL

BP.11 ACKNOWLEDGMENT AND EXECUTION:

STATE OF Nevada)
) **SS**
COUNTY OF Lyon)

I DANIEL F COONS (Name of party signing this Bid Proposal), do depose and say: That I am the Bidder or authorized agent of the Bidder; and that I have read and agree to abide by this Bid which includes, but is not limited to the following documents: Notice to Contractors, Table of Contents, Project Coordination, Instructions to Bidders, Bid Bond, Proposal Summary, Contract Award Instructions and Information, Sample Contract, Sample Performance Bond, Sample Labor and Material Payment Bond, General Conditions, Special Conditions, Standard Specifications, Prevailing Wage Rates, Technical Specifications, Geotechnical Report (if any), Contract Drawings, Permits (if any), and any addenda issued and understands the terms, conditions, and requirements thereof; that if his/her bid is accepted that he/she agrees to furnish and deliver all materials except those specified to be furnished by the City (Owner) and to do and perform all work for the "**CDBG-Airport Road ADA Improvement Project**", contract number **20300007**, together with incidental items necessary to complete the work to be constructed in accordance with the Contract Documents, Contract Drawings, and Specifications annexed hereto.

BIDDER:

PRINTED NAME OF BIDDER: DANIEL F COONS

TITLE: MANAGING MEMBER

FIRM: COONS CONSTRUCTION LLC

Address: PO BOX 1460

City, State, Zip: DAYTON, NV 89403

Telephone: 775-246-1660

Fax: 775-246-1669

E-mail Address: danny@coons.biz

Daniel F Coons
(Signature of Bidder)

DATED: June 12, 2020

Signed and sworn (or affirmed) before me on this 12th day of June, 2020, by Jessica Deeann Rose Crossman.

Jessica Deeann Rose Crossman
(Signature of Notary)

JESSICA DEEANN ROSE CROSSMAN
NOTARY PUBLIC
STATE OF NEVADA
Appt. No. 16-1206-12
My Appt. Expires January 15, 2024

(Notary Stamp)

Exhibit B

CERTIFICATION OF BIDDER/CONTRACTOR REGARDING EQUAL EMPLOYMENT OPPORTUNITY

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246 (30 F.R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven calendar days after the bid opening. No contract shall be awarded unless such report is submitted.

CERTIFICATION

"The Bidder (Contractor) shall complete the following statement by checking the appropriate boxes.

The Bidder (Contractor) has [ ]has not [√] participated in a previous contract or subcontract subject to the equal opportunity clause prescribed by Executive Order 10925, or Executive Order 11114, or Executive Order 11246.

The Bidder (Contractor) has [ ] has not [√] submitted all compliance reports in connection with any such contract due under the applicable filing requirements; and that representations indicating submission of required compliance reports signed by proposed subcontractors will be obtained prior to award of subcontracts.

If the Bidder (Constractor) has participated in a previous contract subject to the equal opportunity clause and has not submitted compliance reports due under applicable filing requirements, the Bidder (Proposer) shall submit a compliance report on Standard Form 100, 'Employee Information Report EEO-1' prior to the award of contract." See www.eeoc.gov for more information.

COONS CONSTRUCTION LLC
Daniel Coons, Managing Member
Name & Title of Bidder/Contractor (Please Type)

Daniel Coons
Signature

6/16/2020
Date

ATTACHMENT C-FEDERAL REQUIREMENTS
NEVADA COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

CERTIFICATION OF PROPOSED SUBCONTRACTOR REGARDING EQUAL EMPLOYMENT OPPORTUNITY

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246 (30 F.R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven calendar days after the bid opening. No contract shall be awarded unless such report is submitted.

CERTIFICATION

"The Subcontractor shall complete the following statement by checking the appropriate boxes.

The Subcontractor has [ ]has not [✓] participated in a previous contract or subcontract subject to the equal opportunity clause prescribed by Executive Order 10925, or Executive Order 11114, or Executive Order 11246.

The Subcontractor has [ ] has not [✓] submitted all compliance reports in connection with any such contract due under the applicable filing requirements; and that representations indicating submission of required compliance reports signed by proposed subcontractors will be obtained prior to award of subcontracts.

If the Subcontractor has participated in a previous contract subject to the equal opportunity clause and has not submitted compliance reports due under applicable filing requirements, the Subcontractor shall submit a compliance report on Standard Form 100, 'Employee Information Report EEO-1' prior to the award of contract." See www.eeoc.gov for more details.

Apex Grading & Paving, Inc. PO Box 19045; Reno, NV 89511
Name & Address of Subcontractor (Please Type)

Signature

6/16/2020
Date

ATTACHMENT C-FEDERAL REQUIREMENTS
NEVADA COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

CERTIFICATION OF PROPOSED SUBCONTRACTOR REGARDING EQUAL EMPLOYMENT OPPORTUNITY

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246 (30 F.R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven calendar days after the bid opening. No contract shall be awarded unless such report is submitted.

CERTIFICATION

"The Subcontractor shall complete the following statement by checking the appropriate boxes.

The Subcontractor has [ ]has not [X] participated in a previous contract or subcontract subject to the equal opportunity clause prescribed by Executive Order 10925, or Executive Order 11114, or Executive Order 11246.

The Subcontractor has [ ] has not [X] submitted all compliance reports in connection with any such contract due under the applicable filing requirements; and that representations indicating submission of required compliance reports signed by proposed subcontractors will be obtained prior to award of subcontracts.

If the Subcontractor has participated in a previous contract subject to the equal opportunity clause and has not submitted compliance reports due under applicable filing requirements, the Subcontractor shall submit a compliance report on Standard Form 100, 'Employee Information Report EEO-1' prior to the award of contract." See www.eeoc.gov for more details.

Cheek Construction LLC 3303 Reno Highway, Fallon NV 89406
Name & Address of Subcontractor (Please Type)

Kyle Cheek
Signature

06/17/2020
Date

ATTACHMENT C-FEDERAL REQUIREMENTS
NEVADA COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

CERTIFICATION OF PROPOSED SUBCONTRACTOR REGARDING EQUAL EMPLOYMENT OPPORTUNITY

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246 (30 F.R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven calendar days after the bid opening. No contract shall be awarded unless such report is submitted.

CERTIFICATION

"The Subcontractor shall complete the following statement by checking the appropriate boxes.

The Subcontractor has [x]has not [ ] participated in a previous contract or subcontract subject to the equal opportunity clause prescribed by Executive Order 10925, or Executive Order 11114, or Executive Order 11246.

The Subcontractor has [x] has not [ ] submitted all compliance reports in connection with any such contract due under the applicable filing requirements; and that representations indicating submission of required compliance reports signed by proposed subcontractors will be obtained prior to award of subcontracts.

If the Subcontractor has participated in a previous contract subject to the equal opportunity clause and has not submitted compliance reports due under applicable filing requirements, the Subcontractor shall submit a compliance report on Standard Form 100, 'Employee Information Report EEO-1' prior to the award of contract." See www.eeoc.gov for more details.

Nevada Barricade & Sign Co., Inc.
Name & Address of Subcontractor (Please Type)

Signature

6-17-2020
Date

Exhibit B

LOBBYING ASSURANCES – BIDDER/MAIN CONTRACTOR

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contact, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all sub awards at the all tiers (including subcontracts, sub grants, and contracts under grants, loans, and cooperative agreements) and that all sub recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each failure.

Daniel J Coons
COONS CONSTRUCTION LLC

Signature Daniel Coons Managing Member 6/16/2020
Bidder/Main Contractor: Authorized Official Date

ATTACHMENT C-FEDERAL REQUIREMENTS
NEVADA COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

LOBBYING ASSURANCES - SUBCONTRACTOR

The undersigned certifies, to the best of his or her knowledge and belief, that:

(4) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contact, grant, loan, or cooperative agreement.

(5) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(6) The undersigned shall require that the language of this certification be included in the award documents for all sub awards at the all tiers (including subcontracts, sub grants, and contracts under grants, loans, and cooperative agreements) and that all sub recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each failure.

Signature _____ 6/14/2020
Subcontractor: Authorized Official — Date

ATTACHMENT C-FEDERAL REQUIREMENTS
NEVADA COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

LOBBYING ASSURANCES - SUBCONTRACTOR

The undersigned certifies, to the best of his or her knowledge and belief, that:

(4) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contact, grant, loan, or cooperative agreement.

(5) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(6) The undersigned shall require that the language of this certification be included in the award documents for all sub awards at the all tiers (including subcontracts, sub grants, and contracts under grants, loans, and cooperative agreements) and that all sub recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each failure.

Signature Kyle Cheek
Subcontractor: Authorized Official

06-17-2020
Date

ATTACHMENT C-FEDERAL REQUIREMENTS
NEVADA COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

LOBBYING ASSURANCES - SUBCONTRACTOR

The undersigned certifies, to the best of his or her knowledge and belief, that:

(4) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contact, grant, loan, or cooperative agreement.

(5) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(6) The undersigned shall require that the language of this certification be included in the award documents for all sub awards at the all tiers (including subcontracts, sub grants, and contracts under grants, loans, and cooperative agreements) and that all sub recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each failure.

Signature _____ 6-17-2020
Subcontractor: Authorized Official Date

Exhibit B

CERTIFICATION OF CONTRACTOR OR SUBCONTRACTOR REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY OR VOLUNTARY EXCLUSION

The undersigned contractor or subcontractor certifies, to the best of his knowledge and belief, that:

1. Neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this contract by any Federal department, agency, or program.

2. Where either the contractor or subcontractor is unable to certify to any of the above statements, the contractor or subcontractor shall attach an explanation as to why a certification cannot be submitted.

COONS CONSTRUCTION LLC
Name of Contractor or Subcontractor

Daniel Coons Managing Member
Name and Title of Authorized Representative

Daniel Coons
Signature

6/16/2020
Date

ATTACHMENT C-FEDERAL REQUIREMENTS
NEVADA COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

CERTIFICATION OF CONTRACTOR OR SUBCONTRACTOR REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY OR VOLUNTARY EXCLUSION

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2. Where either the contractor or subcontractor is unable to certify to any of the above statements, the contractor or subcontractor shall attach an explanation as to why a certification cannot be submitted.

Apex Grading & Paving, Inc
Name of Contractor or Subcontractor

Robert A. Ayers - President
Name and Title of Authorized Representative

Signature

6/16/2020
Date

ATTACHMENT C-FEDERAL REQUIREMENTS
NEVADA COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

CERTIFICATION OF CONTRACTOR OR SUBCONTRACTOR REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY OR VOLUNTARY EXCLUSION

The undersigned contractor or subcontractor certifies, to the best of his knowledge and belief, that:

1. Neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this contract by any Federal department, agency, or program.

2. Where either the contractor or subcontractor is unable to certify to any of the above statements, the contractor or subcontractor shall attach an explanation as to why a certification cannot be submitted.

Cheek Construction LLC
Name of Contractor or Subcontractor

Kyle Cheek, Owner
Name and Title of Authorized Representative

Kyle Cheek
Signature

06/17/2020
Date

ATTACHMENT C-FEDERAL REQUIREMENTS
NEVADA COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

CERTIFICATION OF CONTRACTOR OR SUBCONTRACTOR REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY OR VOLUNTARY EXCLUSION

The undersigned contractor or subcontractor certifies, to the best of his knowledge and belief, that:

1. Neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this contract by any Federal department, agency, or program.

2. Where either the contractor or subcontractor is unable to certify to any of the above statements, the contractor or subcontractor shall attach an explanation as to why a certification cannot be submitted.

Nevada Barricade & Sign Co., Inc.
Name of Contractor or Subcontractor

Jonathan Dethmers - Business Manager
Name and Title of Authorized Representative

Signature

6-17-2020
Date

NEVADA COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

SECTION 3 CLAUSE

All Section 3 contracts exceeding $100,000 shall include the following clause (referred to as the Section 3 Clause):

A. The work to be performed under this contact is subject to the requirements of Section 3 of the Housing and Community Development Act of 1968, as amended, 12 U.S.C. 1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD- assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low-income or very low-income persons, particularly persons who are recipients of HUD assistance for housing.

B. The parties to this contract agree to comply with HUD regulations in 24 CFR part 135, which implement Section 3. As evidence by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the Part 135 Regulation.

C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this Section 3 Clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall being.

D. The contractor agrees to include this Section 3 Clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 Clause upon finding that the subcontractor is in violation of the regulations in CFR Part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135.

E. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulation of 24 CFR Part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR Part 135.

Noncompliance with HUD's regulations in 24 CFR Part 135 may result in sanctions, termination of this contract for the default, and debarment or suspension from future HUD assisted contracts.

NEVADA COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

CERTIFICATION OF PROPOSED CONTRACTOR REGARDING SECTION 3 AND SEGREGATED FACILITIES

COONS CONSTRUCTION LLC
Name of Contractor

CDBG-Airport Road ADA Improvements
Project Name and Number

The undersigned hereby certifies that:

a) Section 3 provisions are included in the contract:

b) A written Section 3 Clause was prepared and submitted as part of the bid proceedings (If the bid equals or exceeds $100,000);

c) No segregated facilities will be maintained.

Daniel Coons, Managing Member
Print or type Name & Title of Person Signing

Daniel F Coons
Signature

6/16/2020
Date

Directions: This certification is to be completed by the contractor and submitted with the bid document. Subparagraph c) does not preclude contractors from providing separate lavatories or changing facilities for men and women.

NEVADA COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

CERTIFICATION OF PROPOSED SUBCONTRACTOR REGARDING SECTION 3 AND SEGREGATED FACILITIES

Apex Grading & Paving, Inc.
Name of Subcontractor

CDBG-Airport Road ADA Improvements
Project Name and Number

The undersigned hereby certifies that:

a) Section 3 provisions are included in the contract:

b) A written Section 3 Clause was prepared and submitted as part of the bid proceedings (If the bid equals or exceeds $100,000);

c) No segregated facilities will be maintained.

Robert A. Ayers - President
Print or type Name & Title of Person Signing

Signature

6/16/2020
Date

Directions: This certification is to be completed by the contractor and submitted with the bid document. Subparagraph c) does not preclude contractors from providing separate lavatories or changing facilities for men and women.

NEVADA COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

CERTIFICATION OF PROPOSED SUBCONTRACTOR REGARDING SECTION 3 AND SEGREGATED FACILITIES

Cheek Construction LLC
Name of Subcontractor

CDBG-Airport Road ADA Improvement Project P3035190
Project Name and Number

The undersigned hereby certifies that:

a) Section 3 provisions are included in the contract:

b) A written Section 3 Clause was prepared and submitted as part of the bid proceedings (If the bid equals or exceeds $100,000);

c) No segregated facilities will be maintained.

Kyle Cheek, Owner
Print or type Name & Title of Person Signing

Kyle Cheek
Signature

06/17/2020
Date

Directions: This certification is to be completed by the contractor and submitted with the bid document. Subparagraph c) does not preclude contractors from providing separate lavatories or changing facilities for men and women.

NEVADA COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

CERTIFICATION OF PROPOSED SUBCONTRACTOR REGARDING SECTION 3 AND SEGREGATED FACILITIES

Nevada Barricade & Sign Co., Inc.
Name of Subcontractor

P303519011 Airport Rd. ADA Improvements
Project Name and Number

The undersigned hereby certifies that:

a) Section 3 provisions are included in the contract:

b) A written Section 3 Clause was prepared and submitted as part of the bid proceedings (If the bid equals or exceeds $100,000);

c) No segregated facilities will be maintained.

Jonathan Dethmers - Business Manager
Print or type Name & Title of Person Signing

Signature

6-17-2020
Date

Directions: This certification is to be completed by the contractor and submitted with the bid document. Subparagraph c) does not preclude contractors from providing separate lavatories or changing facilities for men and women.

Section 3: Estimated Work Force Breakdown

To be completed by Contractors during the bidding process:

1. Contractor name and Address:	2. Dollar Amount of Contract	3. Project Name
COONS CONSTRUCTION LLC PO BOX 1460 DAYTON, NV 89403	161,472 4. Construction Manager NA - CoonsConst Daniel Coons	CDBG - Airport Road ADA Improvements 5. Phone number: 775-246 1660

Employment & Training				
Job Category	Total Estimated Positions Needed for the Project	No. of Persons Occupied by Permanent Employees	Number of New Hires to be added to this Project	Number of New Hires that are Section 3 Residents or Low Income Persons
Professionals				
Technicians				
Office/Clerical	1	1		
Construction by Trade (List)				
Trade Laborers	6	6		
Trade Operating Eng	1	1		
Trade Flaggers	2	2		
Trade Concrete	3	3		
Trade Paving	3	3		
Apprenticeship	0	0		
Other (list)				

The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Community Development Act of 1968.
Please estimate the number of positions needed for the project and the estimated work force breakdown necessary to complete the project.
List the number of new hires for each job category that will be employed on this project that are Section 3 residents or low to moderate income persons
The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low-income or very low-income persons, particularly persons who are recipients of HUD assistance for housing. Nothing shall be construed to require the employment of a Section 3 resident who does not meet the qualifications of the position to be filled.

Dec-10

Exhibit B

NEVADA COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

SECTION 3 PROVISIONS FOR CONTRACTS

I. PURPOSE

To ensure that employment and other economic opportunities generated by the Community Development Block Grant (CDBG) funds shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly those who reside in government-assisted housing, and to business concerns which provide economic opportunities to low- and very low-income persons.

II. APPLICABILITY

The requirements apply to contractors and subcontractors performing work on Section 3 covered project(s) for which the amount exceeds $100,000.

III. DEFINITIONS

Applicant means any entity which makes a application for CDBG funds, and includes but is not limited to, any State, unit of local government, public housing agency, Indian housing authority, Indian tribe, or other public body, public or private nonprofit organization, private agency or institution, mortgagor, developer, limited dividend sponsor, builder, property manager, community housing development organization (CHDO), resident management corporation, resident council, or cooperative association.

Business concerns means a business entity formed in accordance with State law, and which is licensed under State, county, or municipal law to engage in the type of Business activity for which it was formed.

Contractor means any entity which contracts to perform work generated by the expenditure of Section 3 covered assistance or for work in connection with Section3 covered project.

Employment opportunities generated by Section 3 covered assistance means all employment opportunities generated by the expenditure of Section 3 covered projects, including architectural, engineering, or related professional services required to prepare plans, drawings, specifications, or work write-ups; and jobs directly related to administrative support of these activities, e.g., construction manager, relocation specialist, payroll clerks, etc.

Housing and Community Development Assistance means any financial assistance made available through any grant, loan, loan guarantee, cooperative agreement, or contract.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by City. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to City, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

BUY AMERICA

The Consultant agrees to comply with 49 U.S.C. 5323(j) as amended by MAP-21, 49 U.S.C. 5323(h), 49 CFR Part 661, and FAST Act (Pub. L. 114-94) which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 CFR 661.7 and was amended by Section 3011 of the FAST Act (Pub. L. 114-94). Separate requirements for rolling stock are set out at 5323(j)(2)(C) and 49 CFR 661.11. Rolling stock not subject to a general waiver must be manufactured in the United States and have a sixty percent (60%) domestic content for FY16 & FY17; sixty-five percent (65%) domestic content for FY18 & FY19; and seventy percent (70%) domestic content for FY20 & beyond.

General waivers for small purchases do not apply to Consultants equipment purchases when Consultant's contract value exceeds $150,000 in value. Consultant must submit to City the appropriate Buy America certification with all bids on FTA-funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as non-responsive. This requirement does not apply to lower tier sub-consultants.

Certification requirement for procurement of steel, iron, or manufactured products *(to be submitted with each bid or offer exceeding $100,000)*.

Certificate of Compliance with 49 U.S.C. 5323(j)(1)
The bidder or offeror hereby certifies that it will meet the requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations in 49 CFR Part 661.5.

Date 6/16/2020

Signature Daniel J Coons

Company Name COONS CONSTRUCTION LLC by Daniel Coons

Title MANAGING MEMBER

Certificate of Non-Compliance with 49 U.S.C. 5323(j)(1)
The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(1) and 49 C.F.R. 661.5, but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. 661.7.

Date _____

Signature _____

Company Name _____

Title _____

the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form--LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, *et seq* .)]

3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such expenditure or failure.]

The Contractor, COONS CONSTRUCTION LLC certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, *et seq., apply* to this certification and disclosure, if any.

Daniel J Coons
Signature of Contractor's Authorized Official

DANIEL COONS, MANAGING MEMBER
Name/Title of Contractor's Authorized Official

6/16/2020
Date

CLEAN AIR

1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq. The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

2) The Contractor also agrees to include these requirements in each subcontract exceeding $100,000 financed in whole or in part with Federal assistance provided by FTA.

CLEAN WATER

1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the

Exhibit B

Office Use Only: Contract #: _____

Disadvantaged Business Enterprise (DBE) Race Neutral Goal 2.00%

To be filled out by contractor:

Title of Project: _____ **Advertised Bid #:** _____

Base Bid/Proposal Amount: $_____

_____ _____
Contractor's Signature **Date**

DBE Firm Name: _____
Confirmation of DBE Participation: _____
(signature can be obtained after bid award is determined)

% of Base Bid: _____% Approximate Amount of DBE's Portion: $_____
Firm Address: _____
DBE Certification # & Expiration: _____
Contact Person: _____ Phone #: _____

Scope of work: _____

_____

_____

Office Use Only

Site Monitor: _____ **Site Monitor Initials:** _____
Site Visit Date (s): _____
DBE Certification Verified: Yes or No

1. Does it appear the DBE firm is performing described scope the work?
Yes _____ No _____

2. Does it appear the DBE contractor is managing their scope of the project & using their employees?
Yes _____ No _____

3. Does it appear the DBE contractor is providing the equipment for their scope of work?
Yes _____ No _____

Duplicate form for additional DBE Firms

C-51 NB NOT DBE LOONS CONST NOT DBE
APEX NOT DBE
~~SIEVCHEEK~~ NOT DBE

ATTACHMENT C-FEDERAL REQUIREMENTS

Nevada Governor's Office of

ECONOMIC DEVELOPMENT

COMMUNITY DEVELOPMENT BLOCK GRANT

CHECK ONE:

- ☐ 5 – 8 hour days
- ☒ 4 – 10 hour days

WAGE COMPARISON WORKSHEET

Project Name CDBG - Airport Road ADA Improvement Location CARSON CITY, NV Date 6/

Date & Modification of Federal Wage Rates _____ Date of State Rates _____

Classification	Group		Area Zone		Federal Rate			State Rate			Rate To Be Paid			Fed/State
	Fed (if applies)	State	Fed (if applies)	State	Base Rate*	Fringe Benefit	Total	Base Rate*	Fringe Benefit	Total	Base Rate	Fringe Benefit	Total	
Notes:														

Post bid requirement

The higher base rate will determine whether the contractor will pay Davis-Bacon (Federal) or State rates for each classification. This only applies to contracts $100,000 and over; only the Federal Wage Rates need to be used for contracts $2,000 to $100,000, if the total project cost is less than $100,000.
Note* Add the zone rate or travel differential to the base rate to get the total base rate.

Use additional forms if necessary. **CONTRACTOR SIGNATURE & DATE:** _____

Exhibit B

LIST OF SUBCONTRACTORS AND SUPPLIERS BIDDING

Contract No.: CC 2020 311 Contractor: COONS CONSTRUCTION LLC

List all subcontractors providing bids to your firm for this contract. You may make copies of this form.

This form must be submitted no later than 5:00 pm the next business day after the bid opening time.

SUBCONTRACTOR NAME AND ADDRESS	SUBCONTRACTOR PHONE NO.	NEVADA CONTRACTOR LICENSE # (IF APPLICABLE)	LICENSE LIMIT (IF APPLICABLE)	USED?	DBE CERTIFIED?	SUPPLIER?
COONS CONSTRUCTION LLC POBOX 1460 DAYTON, NV 89403	7752461660	39195A 39006A	6,400,000	Yes No	Yes No	Yes No
APEX GRADING + PAVING PO BOX 19045 RENO, NV 89511	775 852 9701	52001A	800K	Yes No	Yes No	Yes No
~~SIERRA WEST CONCRETE 3851 SWEETLAND DR CC, NV 89701~~	~~7758610225~~	~~42752~~	~~850K~~	~~Yes No~~	~~Yes No~~	~~Yes No~~
CHEEKS CONSTRUCTION 4695 COUNTRY RIVER DR FALLON, NV 89406	7754268802	78906	8,200,000	Yes No	Yes No	Yes No
				Yes No	Yes No	Yes No
NV Barricade POBOX 20459 Reno, NV 89515	7753315100	52315	Un l.	Yes No	Yes No	Yes No
				Yes No	Yes No	Yes No
				Yes No	Yes No	Yes No
				Yes No	Yes No	Yes No
				Yes No	Yes No	Yes No
				Yes No	Yes No	Yes No
				Yes No	Yes No	Yes No

Exhibit B

REV. 09/13

Attachment C 04.27.20

BIDDER SUBCONTRACTOR INFORMATION

(For subcontractors exceeding five percent (5%) of the bid amount)

Contract No.: LL-2020-311

Contractor: COONS CONSTRUCTION LLC

Project No(s).: P 3035 19011

Address: PO BOX 1460

Total Bid Amount $ 161,472.00

DAYTON, NV 89403

This information must be submitted with your bid proposal. The bidder shall enter "NONE" under "SUBCONTRACTOR NAME" if not using subcontractors exceeding 5% of the bid amount. Per NRS 338.141 Prime Contractor to list itself on Subcontractor's list if to perform any of the work.

SUBCONTRACTOR NAME AND ADDRESS AND DUNS NUMBER	PHONE NO.	PROPOSAL ITEM NO(S).* (7 DIGIT #)	NEVADA CONTRACTOR LICENSE # (IF APPLICABLE)	LICENSE LIMIT (IF APPLICABLE)	DESCRIPTION OF WORK OR SERVICES TO BE SUBCONTRACTED
APEX GRADING + PAVING PO BOX 19045, RENO, NV 89511	775-852-9701	6-13	52001A	800K	Paving + Sealing
~~SIERRA WEST CONCRETE 3851 SWEETLAND DR CARSON CITY, NV 89701~~	~~775 884-6225~~	~~6-13~~	~~0042752~~	~~800K~~	~~Concrete~~
COONS CONSTRUCTION LLC PO BOX 1460 DAYTON, NV 89403	775 246 1660	1-20	39195A 38006A	6,400,000	All items not noted above
CREEK CONSTRUCTION 4695 COUNTRY RIVER FALLON, NV 89406	775 426 8802	6-13	78906	$8,200,000	concrete
NV Barricade PO BOX 20459 Reno, NV 89515	775-331-5100	3	52315	Unlim.	Traffic Control

The undersigned affirms all work, other than that being performed by the subcontractors listed in the subcontractor reports submitted for this contract, will be performed by the Prime Contractor listed above.

*** Please list all items (attach a separate sheet if necessary). Do not enter "multiple" or "various."**

Contractor's Signature

6/16/2020
Date

Telephone No. 775-246 1660

Exhibit B

REV. 09/13

BIDDER SUBCONTRACTOR INFORMATION

(For subcontractors exceeding one percent (1%) of bid amount or $50,000, whichever is greater)

Contract No.: RR2020-311

Contractor: COONS CONSTRUCTION LLC

Project No(s).: P30351901

Address: PO BOX 1460

DAYTON, NV 89403

Bid Amount $ 161,472.00

This information must be submitted by the three (3) lowest bidders **no later than 2 hours after the bid opening time.** The bidder shall enter "NONE" under "SUBCONTRACTOR NAME" if not using subcontractors exceeding 1% of the bid amount.Per NRS 338.141 Prime Contractor to list itself on Subcontractor's list if to perform any of the work.

SUBCONTRACTOR NAME AND ADDRESS AND DUNS NUMBER	SUBCONTRACTOR PHONE NO.	PROPOSAL ITEM NO(S).* (7 DIGIT #)	NEVADA CONTRACTOR LICENSE # (IF APPLICABLE)	LICENSE LIMIT (IF APPLICABLE)	DESCRIPTION OF WORK OR SERVICES TO BE SUBCONTRACTED
APEX GRADING + PAVING PO BOX 19045 RENO, NV 89511	775 852 9701	6-13	52001A	$800K	PAVING + STRIPING (Trail)
~~SIERRA WEST CONCRETE 3851 SWEETLAND DR CC, NV 89701~~	~~775 851 0225~~	~~6-13~~	~~42~~	~~$800K~~	~~concrete~~
COONS CONST LLC PO BOX 1460 DAYTON, NV 89403	7752461660	1-20	39195A 38006A	6,400,000	All other
CHEEK CONSTRUCTION 4695 COUNTRY RIVER FALLON, NV 89406	775 426 8802	6-13	78906	8,200,000	concrete
NV Barricade + Sign POBOX 20459 RENO, NV 89515	7753315100	3	52315	Unlimited	Flagger Traffic Control

* **Please list all items (attach a separate sheet if necessary). Do not enter "multiple" or "various."**

David J Coons
Contractor's Signature

6/12/2020
Date

Telephone No. 7752461660

Exhibit B

REV. 09/13

BIDDER SUBCONTRACTOR INFORMATION

(For subcontractors exceeding $250,000.00)

Required only if the total bid amount is greater than $25 million

Contract No.: 22-2020-311

Contractor: LOONS CONSTRUCTION LLC

Project No(s). : P3035 19011

Address: POBOX 1460

Total Bid Amount $ 161,472.00

DAYTON, NV 89403

If the total bid amount is $25 million or greater, this information must be submitted, by the three (3) lowest bidders, **no later than 2 hours after the bid opening time.** The bidder shall enter "NONE" under "SUBCONTRACTOR NAME" if not using subcontractors exceeding $250,000.00.

SUBCONTRACTOR NAME AND ADDRESS	SUBCONTRACTOR PHONE NO.	PROPOSAL ITEM NO(S).* (7 DIGIT #)	NEVADA CONTRACTOR LICENSE # (IF APPLICABLE)	LICENSE LIMIT (IF APPLICABLE)	DESCRIPTION OF WORK OR SERVICES TO BE SUBCONTRACTED

Not Applicable less than 25m.

*** Please list all items (attach a separate sheet if necessary). Do not enter "multiple" or "various."**

Telephone No. _____

_____ Contractor's Signature

_____ Date

Exhibit B

REV. 09/13

COONS CONSTRUCTION LLC

Election of Scheduled Work Week

Jobsite: CDBG: Airport Road ADA Improvements

I, have been given the option of voluntarily working either:

✓ 4 days at 10 hours per shift

_____5 days at 8 hours per shift.

My choice is indicated by my initials beside the schedule of my choice.

Daniel Coons

Coons Construction LLC by Daniel Coons, Managing Member

PO Box 1460, Dayton, Nevada 89403-1460
775-246-1660

COONS CONSTRUCTION LLC

Conflict of Interest Disclosure Form

Date: June 16, 2020

Project: CDBG – Airport Road ADA Improvements

Title: Managing Member

Name: Daniel Coons

Position: Managing Member

Please describe below any relationships, transactions, positions you hold (volunteer or otherwise), or circumstances that you believe could contribute to a conflict of interest:

I have no conflict of interest to report. I have the following conflict of interest to report (please specify other nonprofit and for-profit boards you (and your spouse) sit on, any for-profit businesses for which you or an immediate family member are an officer or director, or a majority shareholder, and the name of your employer and any businesses you or a family member own:

I hereby certify that the information set forth above is true and complete to the best of my knowledge.

Signature: Daniel F Coons

Coons Construction LLC, by Daniel F Coons, Managing Member

Date: June 16, 2020

PO Box 1460, Dayton, Nevada 89403-1460
775-246-1660

STAFF REPORT

Report To: The Carson City Regional Transportation Commission (RTC)

Meeting Date: July 8, 2020

Staff Contact: Lucia Maloney, Transportation Manager

Agenda Title: For Information Only – Information and presentation on the Southwest Carson Circulation Study.

Staff Summary: Staff will present initial findings from the Southwest Carson Circulation Study. This study was conducted to understand long-term circulation and access needs throughout southwest Carson City and to understand how ongoing developments affect streets parallel and adjacent to South Carson Street.

Agenda Action: Other/Presentation **Time Requested:** 20 minutes

---

Proposed Motion
N/A

Background/Issues & Analysis
Currently, Carson City is constructing the South Carson Street Complete Streets Project – a 2.5 mile, $20M+ project along South Carson Street from 5th Street to Roland Street. The South Carson Street Complete Streets Project includes improved business access, additional bicycle and pedestrian facilities, addition of fiber-optic cable and "smart city" improvements, a roundabout at South Carson Street and Stewart Street, stormwater improvements, decorative street lighting, and landscaping.

The construction and completion of the South Carson Street project combined with ongoing development and growth throughout southwest Carson City present the need to comprehensively understand long-term circulation and access needs for parallel and adjacent side streets. Planning ahead for these future connections is critical to ensuring realization of the full potential of prior and current transportation investments. Headway Transportation was selected to complete the study at the September 11, 2019 RTC Board Meeting.

The primary purposes of the study are to:

- Create and illustrate alignment options, opportunities, and constraints for the realignment of Snyder Avenue to Appion Way and signalization of the new four-way intersection with S. Carson Street
- Identify improvements on S. Curry Street and Silver Sage Drive for improved overall circulation and high-quality parallel routes to S. Carson Street, including related cross streets
- Identify other long-term transportation improvements in the study area that support business access and revitalization goals

Headway completed two reports associated with this study; one examining alternatives for the realignment of Snyder Avenue to Appion Way, and one assessing the connections and routes parallel to South Carson Street.

The two reports resulted in the following conclusions and recommendations:

- Realign Snyder Avenue to connect to W. Appion Way. Signalize the intersection of W. Appion Way/Snyder Avenue/S. Carson Street.
- The Cochise Street/ S. Curry Street corridor and S. Roop Street/ Silver Sage Drive corridor have adequate capacity to accommodate additional traffic and promote circulation and development in the area.
- S. Curry Street and Cochise Street are more commercial and less residential in nature than Silver Sage Drive and therefore are better suited for development and traffic increases.
- All studied intersections are expected to operate within Carson City's level of service (LOS) policy in the future year 2040 in their current configurations.
- The extension of Stewart Street to S. Curry Street as a two-lane roadway, with appropriate turn lanes, will benefit traffic circulation and access.
- Pavement and striping maintenance on S. Curry Street and Cochise Street should be provided, and the posted speed limit on S. Curry Street and Cochise Street should be revised to be a consistent 30 mph, subject to the recommendations of a speed limit study.
- Consideration should be given to signalization of the Rhodes Street/S. Carson Street intersection (potentially privately funded by future development(s) if/when appropriate signal warrants are met).
- Improve Oak Street between Roland Street and Clearview Drive.
- Work collaboratively with property owners to improve access from properties south of the Snyder Avenue to Oak Street.

Applicable Statute, Code, Policy, Rule or Regulation

N/A

Financial Information

Is there a fiscal impact? ☐ Yes ☒ No

If yes, account name/number: N/A

Is it currently budgeted? ☐ Yes ☐ No

Explanation of Fiscal Impact:

Alternatives

N/A

Supporting Material

-Exhibit-1: Snyder Appion Alternatives Analysis
-Exhibit-2: S. Carson Parallel Route Assessment
-Exhibit-3: Presentation to RTC on the South Carson Circulation Study - Draft

Snyder/Appion Alternatives Analysis

Southwest Carson City Circulation Study

May 5, 2020

PREPARED FOR:

Carson City

PREPARED BY:

HEADWAY TRANSPORTATION

Headway Transportation, LLC
5482 Longley Lane, Suite B, Reno, Nevada 89511
775.322.4300
www.HeadwayTransportation.com

LIST OF FIGURES

LIST OF APPENDICES

Introduction

This report documents the **Snyder/Appion Alternatives Analysis**. The purpose of this study is to develop and evaluate options, opportunities, and constraints for improvements to manage anticipated traffic from recently approved developments near the S. Carson Street/ Appion Way intersection. The primary objectives are to provide a signalized crossing of S. Carson Street to manage traffic in the vicinity of Snyder Avenue/Overland Drive and W. Appion Way. However, other improvement strategies were considered and evaluated to vet all possibilities for comparison to select the best overall alternative(s).

This study builds upon the *Traffic Evaluation for South Carson Street (Headway, May 2019)* which presented recommendations to enhance the S. Carson Street Resurfacing & Complete Street project and proactively manage future traffic conditions.

This report focuses on alternatives to improve overall traffic circulation and operations in the Snyder Avenue/Overland Street and W. Appion Way area. The specific goals of the project, by which alternatives were screened are:

1. Improve emergency response time to the west side of S. Carson Street. Carson City Fire Station 53 is located on the east side of S. Carson Street at Snyder Avenue/Oak Street.
2. Provide a new signalized crossing of S. Carson Street at or near W. Appion Way or Snyder Avenue to facilitate future traffic volumes including anticipated traffic from approved development.
3. Accommodate left turns from W. Appion Way and from Overland Street/Snyder Avenue.
4. Improve W. Appion Way to serve traffic from new developments on the west side of S. Carson Street.
5. Improve access to the existing properties on the east side of S. Carson Street.

The goals of the project serve as the criteria to evaluate potential improvement alternatives. Goals 1 and 2 are primary goals. Other criteria for screening options are traffic operations, costs and impacts.

The study area is shown in **Exhibit 1** and includes S. Carson Street at W. Appion Way, Snyder Avenue/Overland Street, Clearview Drive and other intersections impacted by the alternatives.

Exhibit 1: Study Area

The alternatives analysis was performed in the following steps:

- *Potential Options Initial Screening* – Any potential options were considered and documented. The options were compared against the project goals, and those meeting goals were advanced to the Concept Screening stage.
- *Preliminary Concepts Screening* – Options that progressed were evaluated against criteria such as traffic operations, ROW impacts, access, preliminary construction costs etc. Through the screening process, concepts were eliminated or progressed to final alternatives.
- *Final Alternatives* – Additional traffic analysis was conducted, and the final alternatives were compared.
- *Preferred Alternative(s)* – The preferred alternative(s) were identified.

Potential Options Initial Screening

In the initial screening, or the "brain storming" stage, a wide variety potential options were considered. All potential options were evaluated against the numbered project goals presented above. Options that met at least two of the stated goals, without identified fatal flaws, were advanced to the Preliminary Concept Screening stage. Options not meeting at least two of the project goals or that were found to have fatal flaws were eliminated. Potential issues were noted for consideration. **Table 1** presents the initial screening matrix.

Table 1. Initial Screening

Potential Options		Project Goals	Fatal Flaws Identified	Potential Issues	Move forward to Prelim Concepts?
1	Signalize Snyder/Overland at current location	1,2,5	No	Potential operational issue with proximity to Clearview	Yes
2	Signalize W. Appion with a connection to the east side	1,2,3,4, 5	No	Potential property impacts and/or high costs	Yes
3	Signalize W. Appion, add right turn lane to east side	4,5	No	Does not provide a signalized crossing or improve emergency response	Yes
4	Route traffic via Oak to Clearview	1,5	No	Indirect route and roadway improvements required	Yes
5	Provide U-turns at Clearview and Appion	1,3	No	Potentially does not provide enough benefit	Yes
6	Signalize T-intersections at Snyder/Overland and at W. Appion with merging lefts	1,3,4,5	**Yes**	**Fatal Flaw identified - merge lengths do not meet AASHTO standards.**	No
7	Connect Roland to S. Carson and signalize	1	No	Intersection spacing too close to interchange, expected high costs	No
8	Align Snyder Avenue with Silver Sage or California		No	Indirect route and roadway improvements required	No
9	Provide a U-turn between Snyder and Clearview	1	**Yes**	**Fatal Flaw Identified: Does not fit geometrically**	No
10	Construct a roundabout at Snyder and/or W Appion	1,3	**Yes**	**Fatal Flaw identified: Volumes, roadway class and speed are not appropriate for a roundabout**	No
11	Construct an emergency access signal at Snyder/ Carson	1	No	Could potentially be considered in addition to other options	No

As shown in **Table 1**, five basic options were selected for advancement to the preliminary conceptual stage including layouts and traffic operations analysis. The remaining options were eliminated from further consideration.

Preliminary Concepts Screening

The preliminary concepts screening stage consisted of preparing preliminary geometric layouts to identify potential impacts to existing access and properties, and to identify roadway modifications or improvements that would be necessary. Traffic operations were evaluated by estimating the rerouting of traffic volumes with each option and analyzing the proposed control (i.e., converting to a signal).

Analysis of the preliminary concepts was performed using Synchro Version 11 analytical software and design year 2040 volumes presented in the *S. Carson Street Traffic Evaluation Report*. The lane configurations were based on the S. Carson Street Complete Street plans in **Appendix A**.

The evaluation method followed a process by which screening criteria and order-of-magnitude values were developed. The values are color coded with green representing the ideal value for each category, red representing the least preferred value, and yellow (if applicable) between. Each concept was evaluated for each criterion. During the evaluation process, several sub-options emerged for potential alignments for Concept 2, connecting Snyder Avenue to W. Appion Way. The screening criteria is presented in **Table 2**.

Table 2. Screening Criteria

Category	Measurement	Criteria
Project Goals	4-5 of 5 goals 2 of 2 primary goals	Meets 4-5 goals and both primary goals
	2-3 of 5 goals 1-2 of 2 primary goals	Meets 2-3 goals and at least 1 primary goal
	2-3 of 5 goals 0 of 2 primary goals	Meets 2-3 goals and 0 primary goals
Network Traffic Operations Improvement	Significant	Improves LOS/Delay for key approaches of project intersections
	Moderate	Improves LOS/Delay for key approaches of project intersections with but with potential issues
	Minimal/None	Minimal or no impacts to LOS/Delay for key approaches of project intersections
Network Traffic Safety Improvements*	Significant	Provides a signal at a STOP controlled intersection
	Moderate	Provides partial signalization or signalization with potential issues
	Minimal/None	Minimal or no impact on safety
ROW Impacts	Low	Expected minimal or no ROW
	Medium	Some expected ROW acquisition
	High	Significant ROW acquisition expected
Access Improvements	Significant	Improves access for entering and exiting the east and west side
	Moderate	Improves some but not all access for entering and exiting the east and west side
	Minimal/None	Has minimal benefit to access
Causes Additional Roadway Modifications	No	Additional Roadway modifications are not expected
	Yes	In addition to intersection improvements, roadways accessing the alternative may require modification
Estimated Construction Costs	Low	< $1 mil
	Medium	$1 mil to $2 mil
	High	>$2 mil
Possible Opportunity for Private Partnership	Yes	The opportunity exists for private property owners to contribute towards improvements
	No	Limited opportunities for private property owner contributions
Meets Design Standards	Yes	Expected that design will meet standards with no exceptions required
	No	May require a design exception

*For the purposes of this screening it is assumed that signalizing a STOP control intersection with projected side street congestion will improve safety. Full crash/safety analysis would need to be conducted to determine the types of crashes susceptible to correction by a signal.

Table 3 presents a summary of the preliminary concepts screening, including if the concept was eliminated or progressed to final alternatives. All criteria were considered with the highest priority given to alternatives which accomplish the project goals, provide access improvement, and minimize property impacts/ROW acquisition. Additional details and large format early geometric layouts are provided in **Appendix B**.

Although a primary goal was to create a signalized crossing of S. Carson Street, other options were considered to provide a comprehensive analysis of opportunities to address the project needs. Through the process, the other options were eliminated for various reasons and the signalized crossing emerged as the preferred alternative. Additional benefit would be realized at surrounding intersections since drivers will naturally divert over time to the best route, freeing up capacity at the intersections they no longer travel through. From the various options shown in Table **3**, 2a and 2e offered the greatest benefits and were selected to move forward to the final alternatives stage. Due to the property impacts associated with 2c, that alternative will not progress unless constructed by the property owner. Any alignment options through private property would require additional review and consideration.

Table 3: Preliminary Concepts Screening

Preliminary Concepts			Preliminary Alignment*	Criteria										Results	
				Project Goals	Network Traffic Operations Improvement	Network Traffic Safety Improvements	ROW Impacts	Access Improvements	Causes Additional Roadway Modifications	Estimated Construction Costs	Possible Opportunity for Private Partnership	Meets Design Standards	Identified Fatal Flaws	Move forward to Final Alternatives ?	Reason
1	Signalize Snyder/Overland at current location			3/5 goals 2/2 primary goals	Moderate	Moderate	Low	Moderate	No	Low	Yes	Yes	No	No	Does not meet enough goals, signal spacing to Clearview too close.
2a	Signalize W. Appion with a connection to the east side	Via frontage road		5/5 goals 2/2 primary goals	Significant	Significant	Medium	Significant	No	High	Yes	No	No	Yes	Met all project goals with less impacts than similar concepts
2b		Via Roland/ frontage road		5/5 goals 2/2 primary goals	Moderate	Significant	High	Moderate	Yes	High	Yes	Yes	No	No	High ROW and costs with only moderate improvement to access
2c		Via an "S-curve" through the bowling alley		5/5 goals 2/2 primary goals	Significant	Significant	High	Significant	No	Medium	Yes	Yes	No	Only feasible if constructed by property owner	Significant property impacts
2d		Alignment between bowling alley and apartments		5/5 goals 2/2 primary goals	Significant	Significant	High	Significant	No	High	No	Yes	No	No	Significant property impacts
2e		via frontage road with a mini-roundabout		5/5 goals 2/2 primary goals	Significant	Moderate	Medium	Significant	No	High	Yes	No	No	Yes	Met all project goals with less impacts than similar concepts
3	Signalize W. Appion, add right turn lane to east side			2/5 goals 0/2 primary goals	Moderate	Moderate	Low	Moderate	No	Medium	Yes	Yes	No	No	Does not meet enough project goals.
4	Route traffic via Oak to Clearview			2/5 goals 1/2 primary goals	Minimal/ None	Minimal/ None	Low	Minimal/ None	Yes	Not determined	No	Yes	No	No	Does not meet enough project goals. Does not provide operational, access, or network safety improvements.
5	Provide U-turns at Clearview and Appion			2/5 goals 1/2 primary goals	Minimal/ None	Minimal/ None	Low	Minimal/ None	No	Low	No	Yes	No	No	Does not meet enough project goals. Does not provide operational, access, or network safety improvements.

Final Alternatives

The purpose of final alternatives analysis stage was to provide a more comprehensive traffic evaluation and a more in-depth comparison of the access for the remaining Alternatives, 2a and 2e. The findings are summarized below with additional detail provided in **Appendix C**. The final alternatives are presented in attached **Figures 1 and 2**.

Both ***Alternatives 2a*** *and* ***2e*** address the goals of the project. These alternatives improve local circulation and access to properties on the east and west sides of S. Carson Street and improve emergency response. The final alternatives provide a full-access signalized crossing which is the most effective way to manage the anticipated traffic from future development and improve access with reasonable costs and property impacts. Both Alternatives 2a and 2e have challenges regarding private driveway connections along the frontage road. Additional geometric design and consideration of driveway connection details will be necessary in the final design stage.

Pedestrian Accommodations – If pedestrians are accommodated crossing S. Carson Street at Appion Way, it is expected that the intersection operation will be impacted when the pedestrian phases are called. Crosswalks across S. Carson Street would require that the side street green times be extended, which takes time away from the high volume mainline green time and deteriorates the level of service. It is expected that pedestrian crossings would be actuated and that this would occur infrequently during the peak hours.

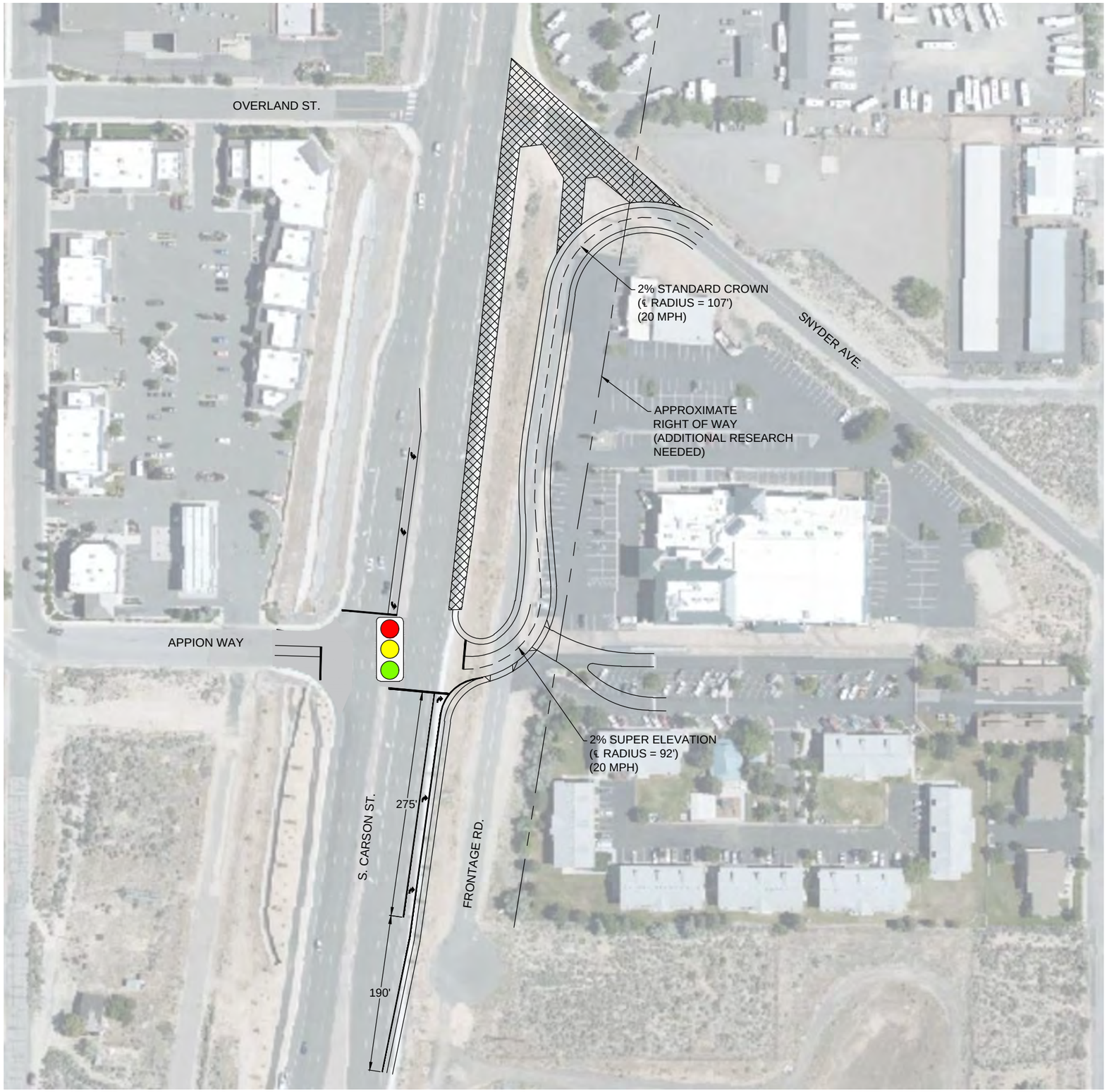
Additional Considerations – Alternative 3 (a partial-access signal at W. Appion Way) was not a final alternative since it did not address as many project goals as Alternatives 2a or 2e. It is noted this alternative improves the operation at W. Appion Way which will be needed given the approved future development. If a full-access signal with an east side connection opposite W. Appion Way cannot be implemented because of right-of-way coordination constraints or unknown geometric conditions, it is recommended that Alternative 3 would be the next best option.

Conclusions and Preferred Alternatives

This study applied a methodical, tiered approach to developing and analyzing alternatives for the Snyder/Overland/Appion area of S. Carson Street. Traffic operations, access configurations, potential impacts, and construction costs were all assessed.

Through the process, realigning Snyder Avenue with W. Appion Way as a full-access signal emerged as the preferred option. This improvement would provide a much-needed additional signalized crossing on S. Carson Street for business access, emergency response, and to manage traffic associated with future development in the area. The full-access signal alternatives, Alternative 2a or 2e, or a variation thereof, are recommended as the preferred alternatives. Alternative 3 could be implemented if an east side connection opposite W. Appion Way becomes infeasible during the final design process.

The S. Carson Street/W. Appion Way/Snyder Avenue intersection is expected to operate acceptably overall and on the mainline in the 2040 timeframe. Some side street movements may operate at LOS E or F during peak hours. The intersection may intermittently experience LOS E or F if crosswalks are constructed across S. Carson Street and modest pedestrian volumes are realized. This level of operations, even after signalization, indicates just how important signalization is at W. Appion Way. Better access to S. Carson Street is needed and the overall operations in the study area will be improved by constructing a traffic signal at W. Appion Way even with less than ideal levels of service.



ASSOCIATED IMPROVEMENTS	COST
TRAFFIC SIGNAL	$ 500,000
INTERCONNECT TO CLEARVIEW	$ 150,000
SNYDER / S. CARSON/FRONTAGE DEMOLITION	$ 300,000
RIGHT TURN LANE TO FRONTAGE	$ 350,000
SNYDER / FRONTAGE IMPROVEMENTS	$ 750,000
MOUNTAIN VIEW VILLAGE APARTMENTS DRIVEWAY	$ 100,000
APPION / S. CARSON MODIFICATIONS	$ 200,000
ROADWAY / INTERSECTION STRIPING	$ 50,000
TOTAL	$2,400,000

EASEMENTS/PROCUREMENT OF PROPERTY REQUIRED FOR THIS OPTION.

SOUTHWEST CARSON CITY CIRCULATION STUDY
SNYDER AVE AND APPION WAY ALTERNATIVES

PREPARED FOR: CARSON CITY

N

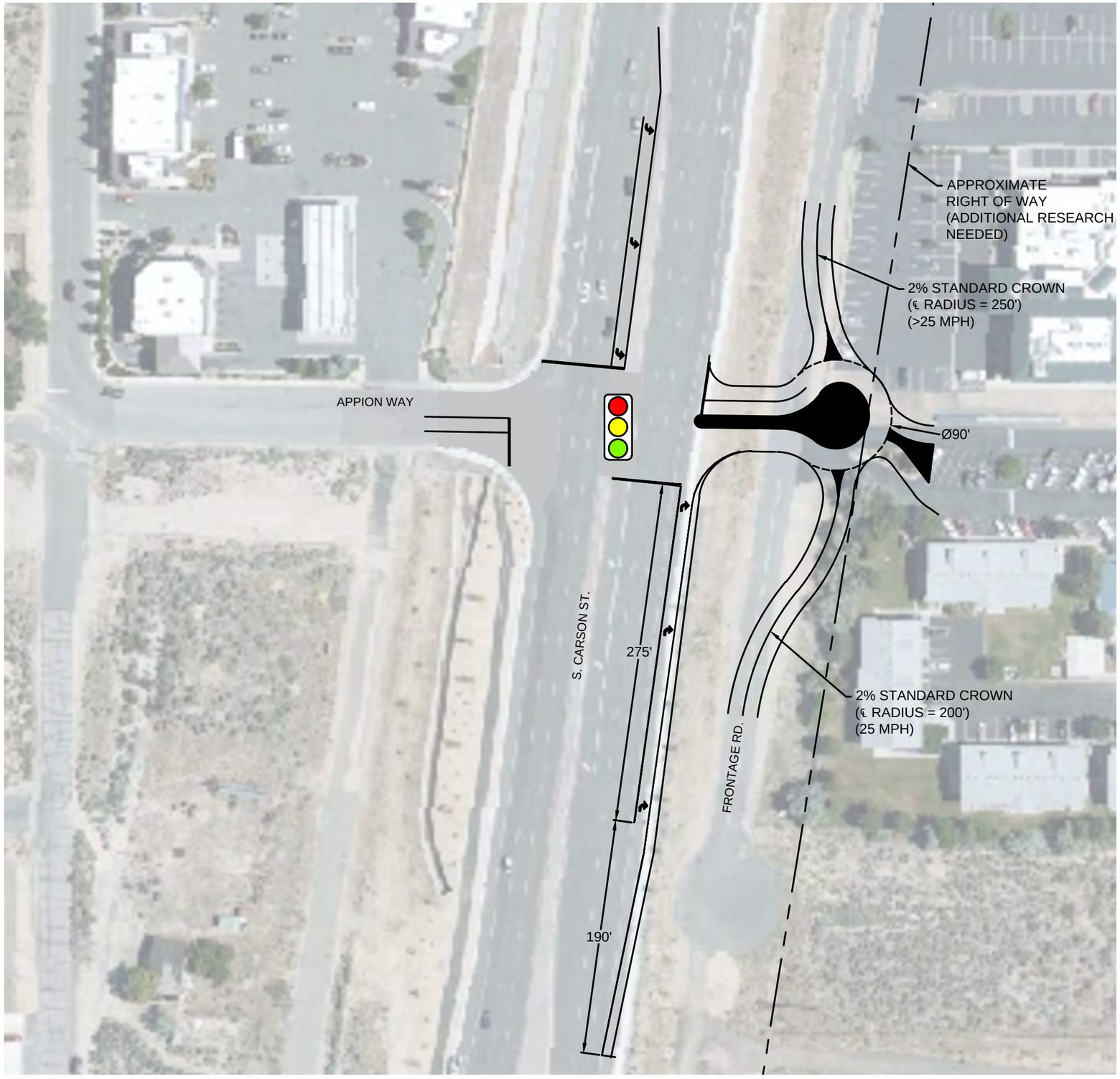
HEADWAY TRANSPORTATION
5482 Longley Lane, Suite B
Reno, NV 89511
(775) 322-4300

ALTERNATIVE 2a:
CONNECT SNYDER
W/ APPION
AND SIGNALIZE

Project # 19-081

Date February 20, 2020

Sheet # Figure 1:
Alternative 2a



ASSOCIATED IMPROVEMENTS	COST
SIGNAL AND MINI- ROUND ABOUT WITH REALIGNMENTS	$2.5M - $3.0M

EASEMENTS/PROCUREMENT OF PROPERTY REQUIRED FOR THIS OPTION.

SOUTHWEST CARSON CITY CIRCULATION STUDY
SNYDER AVE AND APPION WAY ALTERNATIVES

PREPARED FOR: CARSON CITY

N

HEADWAY TRANSPORTATION
5482 Longley Lane, Suite B
Reno, NV 89511
(775) 322-4300

ALTERNATIVE 2e:
SIGNALIZE APPION/
S. CARSON
WITH
MINI-ROUNDABOUT

Project # 19-081

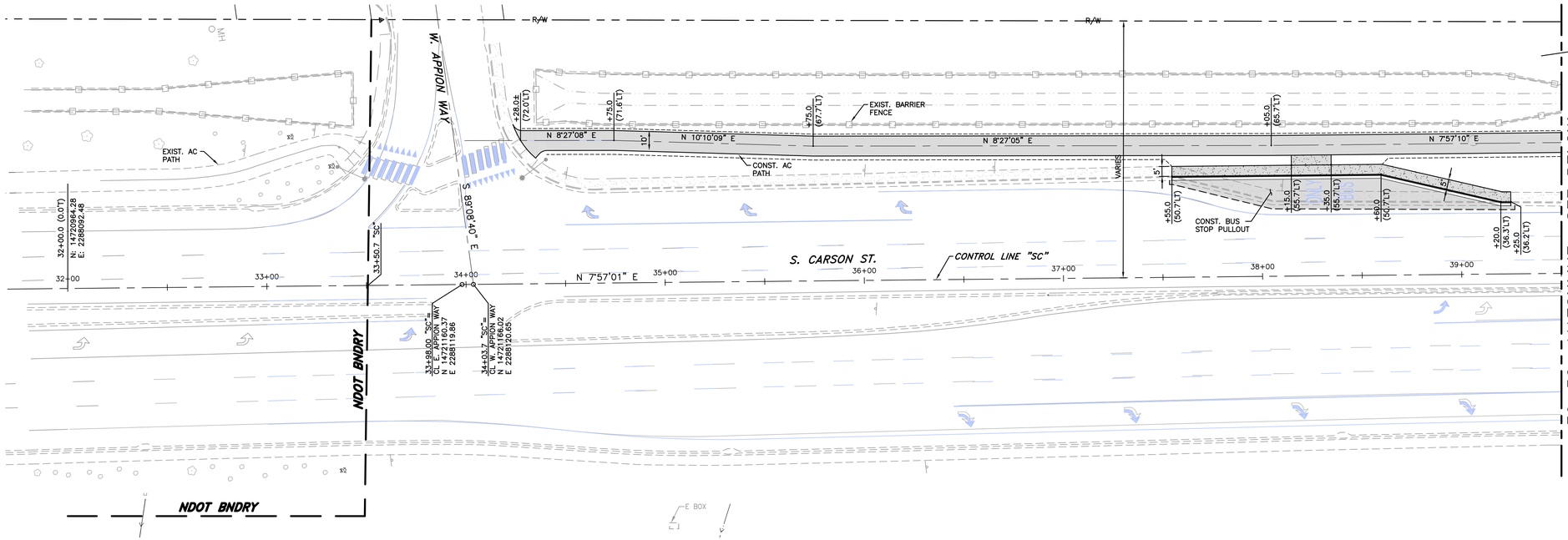
Date February 20, 2020

Sheet #

Figure 2:
Alternative 2e

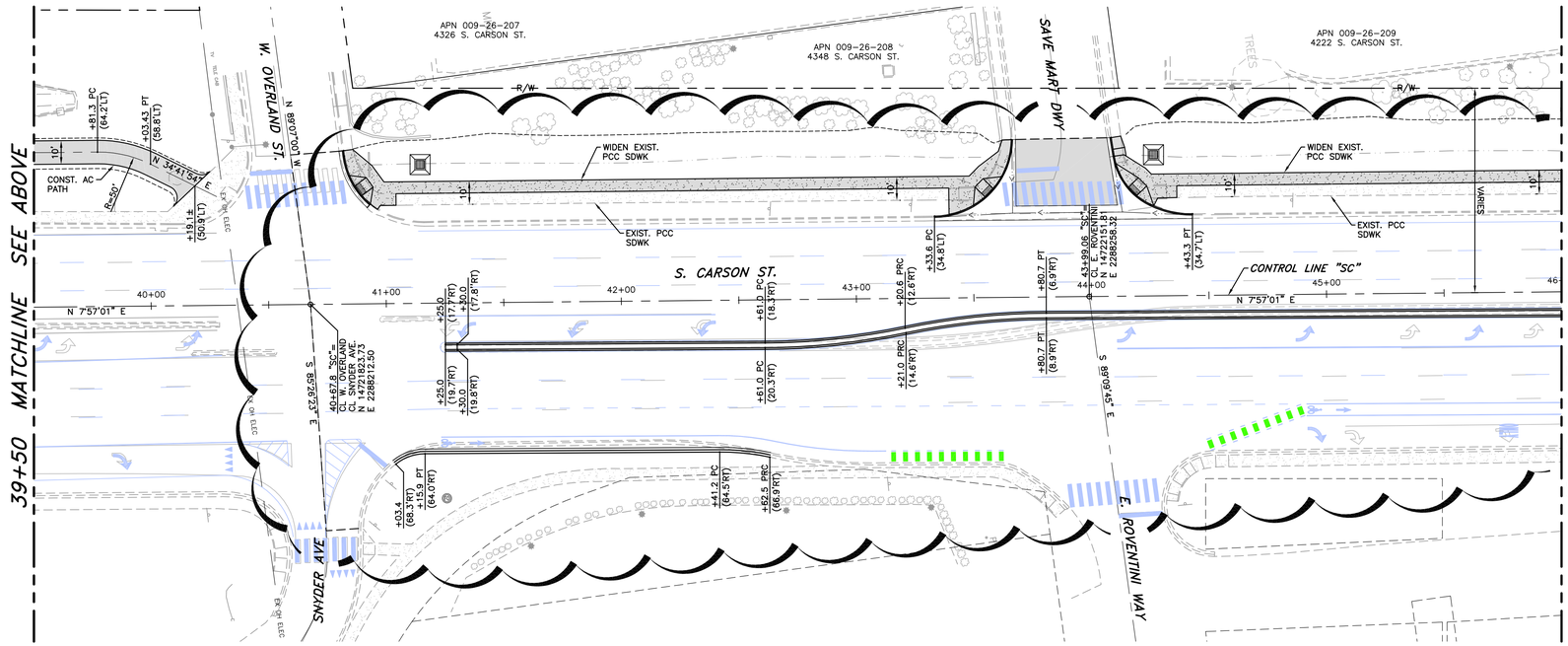
Appendix A

S. Carson Street Complete Street plans



PLAN – S. CARSON STREET

SCALE: 1" = 30'



PLAN – S. CARSON STREET

SCALE: 1" = 30'

1

BASIS OF BEARINGS

THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON THE NEVADA COORDINATE SYSTEM OF 1983, WEST ZONE, NAD 83/94, 2010 CARSON CITY CONTROL NETWORK DATUM. DISTANCES SHOWN ARE GROUND DISTANCES USING A PROJECT COMBINED GRID TO GROUND SCALE FACTOR OF 1.0002.

BASIS OF ELEVATIONS

DATUM: NAVD 88; 2010 CARSON CITY CONTROL NETWORK DATUM
PROJECT BENCHMARK = CARSON CITY CONTROL MONUMENT NO. CC061 HAVING AN ELEVATION OF 4776.35'

HORIZONTAL/VERTICAL CONTROL POINTS

CONTROL POINT	NORTH	EAST	ELEVATION	DESCRIPTION
23	14730335.18	2289301.49	4665.78	2" BRASS CAP CC023
35	14721202.38	2287726.76	4775.67	2" BRASS CAP CC035
61	14724504.89	2287825.31	4776.35	2" BRASS CAP CC061
88	14733297.24	2288569.24	4665.68	2" BRASS CAP CC088
603	14725811.89	2288872.18	4723.53	2" BRASS CAP NDOT 1401005
605	14724314.03	2288644.77	4753.28	2" ALUM CAP NDOT 1401004
606	14722697.70	2288402.47	4780.79	2" BRASS CAP NDOT 1010038M
617	14729458.08	2289428.68	4677.36	3 1/2" BRASS CAP NHD 158468H
624	14721139.84	2287982.49	4769.30	5/8" REBAR CAP LUMOS CONTROL
652	14731543.28	2289465.17	4661.12	MAG NAIL IN ASPHALT
653	14733281.49	2289534.56	4661.81	5/8" REBAR CAP LUMOS CONTROL
655	14734483.99	2289491.34	4673.43	SCRIBED "X" IN CONCRETE

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DESIGNED BY: DGR/DLO/TBG
DRAWN BY: DGR/DLO
CHECKED BY: TBG/DSA
DWG NO.: 031801-hc shts pn1.dwg
SCALE (HORIZ): 1"=30'
SCALE (VERT): 1"=3'
PLOT DATE: 4/3/20

CARSON CITY
PUBLIC WORKS DEPARTMENT
3505 BUTTI WAY CARSON CITY, NEVADA 89701
PH: 887-2355 FAX: 887-2112

PROFESSIONAL ENGINEER-STATE OF NEVADA
THOMAS B. GRUNDY
Exp: 6/30/21
CIVIL
No. 18808

DATE: 2/6/2020

REV.	DATE	DESCRIPTION	BY	APP'D
1	4/3/2020	REVISED ROADWAY PLANIMETRICS	DGR	TBG

SOUTH CARSON STREET
RESURFACING & COMPLETE STREET PROJECT
PROJECT No. 03-1801

S. CARSON STREET
HORIZONTAL CONTROL PLAN
STA 32+00 to STA 46+00

SHEET HC1 OF *

CONFORMED FOR CONSTRUCTION 2/6/2020

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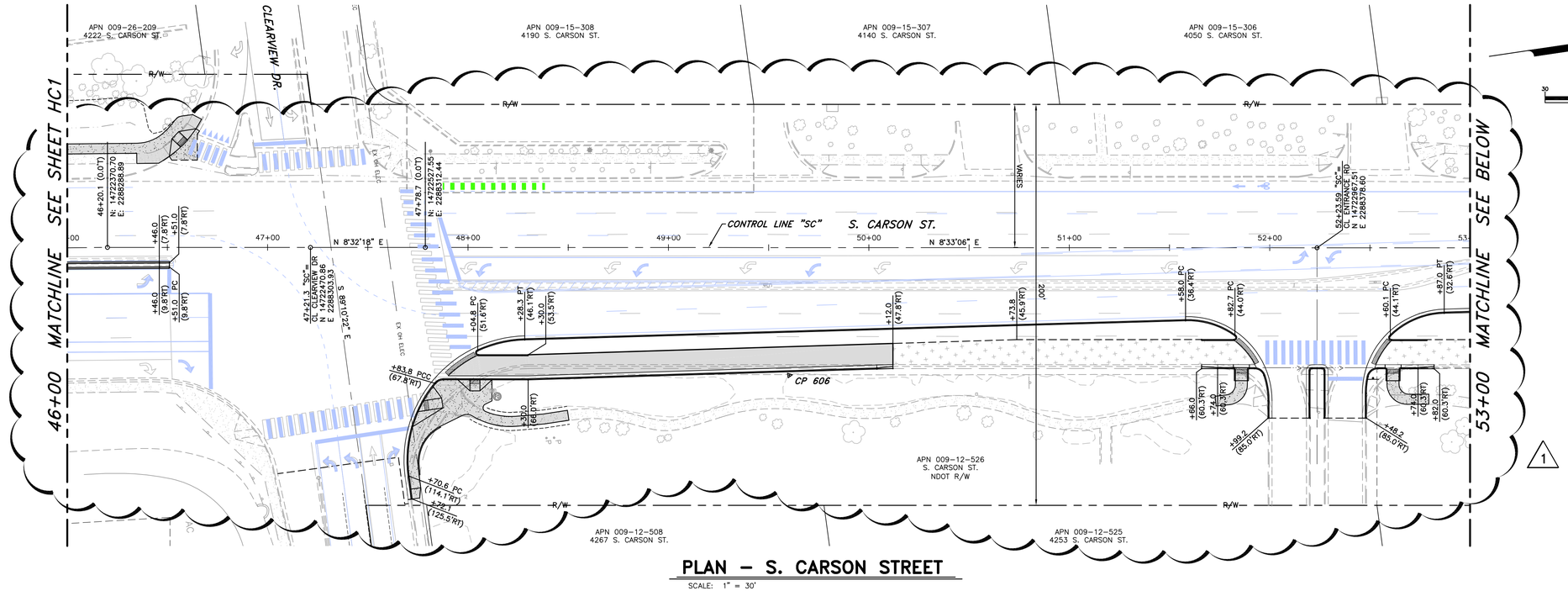
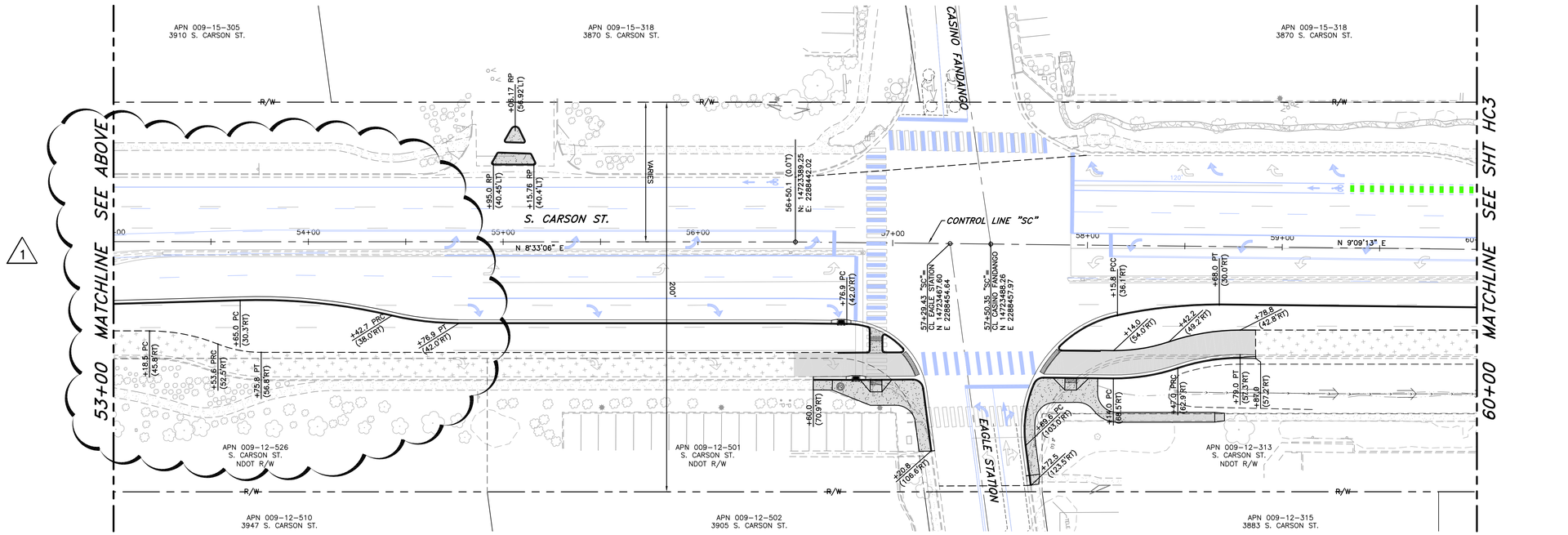


PLAN – S. CARSON STREET

SCALE: 1" = 30'



PLAN – S. CARSON STREET

SCALE: 1" = 30'

DESIGNED BY: DGR/DLO/TBG
DRAWN BY: DGR/DLO
CHECKED BY: TBG/DSA
DWG NO.: 031801-hc sht1 ph1.dwg
SCALE (HORIZ): 1"=30'
SCALE (VERT): 1"=3'
PLOT DATE: 4/3/20

CARSON CITY
PUBLIC WORKS DEPARTMENT
3505 BUTTI WAY CARSON CITY, NEVADA 89701
PH: 887-2355 FAX: 887-2112

PROFESSIONAL ENGINEER – STATE OF NEVADA
THOMAS B. GRUNDY
Exp: 6/30/21
CIVIL
No. 18808

DATE: 2/6/2020

REV.	DATE	DESCRIPTION	BY	APP'D
1	4/3/2020	REVISED ROADWAY PLANIMETRICS	DGR	TBG

SOUTH CARSON STREET
RESURFACING & COMPLETE STREET PROJECT
PROJECT No. 03-1801

S. CARSON STREET
HORIZONTAL CONTROL PLAN
STA 46+00 to STA 60+00

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Avoid cutting underground utility lines. It's costly.
Call 811 OR 1-800-227-2600

SHEET HC2 OF *

CONFORMED FOR CONSTRUCTION 2/6/2020

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Appendix B

Preliminary Concepts Screening

Preliminary Concepts Analysis Base Data

Traffic analysis of the preliminary concepts was performed using Synchro version 11. The design year volumes from the ***S. Carson Street Traffic Evaluation Report*** were used as shown below. The PM peak hour volumes were evaluated as these were higher than AM. **Exhibit 1** shows the volume and lane configurations from the previous report that were used. The lane configurations were based on plans for S. Carson Street provided by the City, which differ from the study. The geometry was updated to include three southbound through lanes through Clearview Drive and Snyder Avenue/ Overland Street.

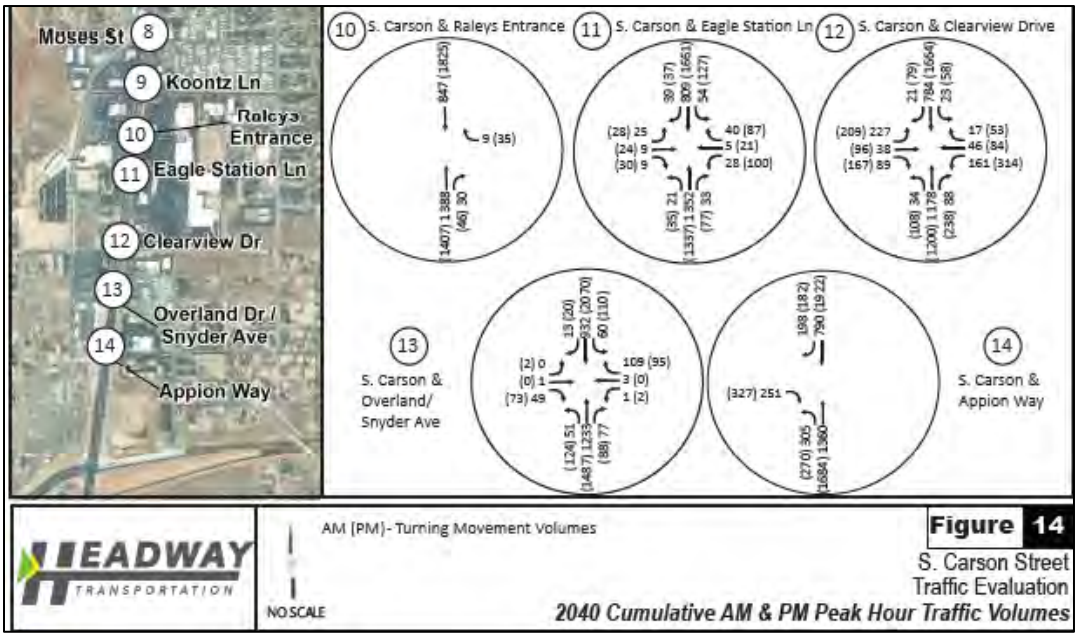


Exhibit 1: 2040 Traffic Volumes

The PM 2040 base conditions were established to estimate the impact that various concepts would have on operations. Clearview Drive has an overall LOS C. Some individual movements at Snyder Avenue and W. Appion Way are LOS F, the overall intersection delay is not reported at unsignalized intersections.

Option 1: Modify and signalize Snyder Avenue/Overland Street/Carson Street intersection to accommodate all movements

Overview

Pros:

- Minimal ROW/ property impacts
- Improves access for both the east and west side of S. Carson Street
- Low cost
- Possible opportunity for private partnership for funding

Cons:

- Does not accomplishes all goals. There is no direct improvement to W. Appion Way; however, an improvement may draw demand from W. Appion Way and thereby lower delay.
- The intersection spacing to Clearview is too close at approximately 660'. It is highly likely that queues would spill back between the intersections intermittently. This is both an operational and safety issue. This issue would exacerbate with pedestrian actuations crossing mainline S. Carson Street. Extending the side street signal phase to accommodate pedestrians crossing S. Carson Street would take away time from the mainline which would result in longer mainline queues.
- No direct improvements for W. Appion Way
- There will be access challenges where the frontage road ties into the signalized Snyder. Left turns from the frontage road may be restricted.

Access Detail

- **Emergency response**: Access is significantly improved for emergency response to the west side. Emergency responders would cross at the Snyder Avenue signal, a short distance from the station.
- **West side/W. Appion Way**: Access is minimally improved. For left turn or a signalized crossing, traffic using W. Appion Way would reroute up Cochise Street to Overland Street.
- **East side/Frontage Road**: Access is moderately improved. Traffic entering/exiting the frontage road properties would be routed up the frontage road to Snyder Avenue.

Analysis

- Volume Rerouting/Assumptions: some traffic will divert from Clearview Drive and W. Appion Way to Snyder Avenue/Overland Street
- Phasing and Geometry:
    - Included plan modification for 3 southbound lanes and side street improvements
    - Protected lefts NB/SB, split phase EB/WB, No added lanes EB/WB
    - Optimized splits and offsets between signals
- The overall LOS is acceptable. The Synchro results are included.
    - ***Overall: LOS C***
    - NBL: LOS D
    - NBT: LOS C
    - SBL: LOS C
    - SBT: LOS B
    - EB: LOS D
    - WB: LOS E

Summary

Option 1 does not accomplish all the project goals and is not preferred operationally due to the close spacing to Clearview Drive. There is expected to be queuing to Clearview Drive intermittently which presents a safety and operations issue. This issue would be exacerbated with pedestrian accommodations. Further signal spacing from Clearview Drive is recommended. This option does not directly improve W. Appion Way but would likely draw some of the demand. Option 1 is eliminated due to signal spacing from Clearview Drive and no direct improvement to W. Appion Way.

ASSOCIATED IMPROVEMENTS	COST
TRAFFIC SIGNAL	$500,000
INTERCONNECT TO CLEARVIEW	$200,000
SURFACE IMPROVEMENTS	$ 75,000
RESTRIPING INTERSECTION	$ 25,000
TOTAL	$800,000

SOUTHWEST CARSON CITY CIRCULATION STUDY
SNYDER AVE AND APPION WAY OPTIONS

PREPARED FOR: CARSON CITY

05

N

HEADWAY TRANSPORTATION
5482 Longley Lane, Suite B
Reno, NV 89511
(775) 322-4300

ALTERNATIVE 1: SIGNALIZE SNYDER/OVERLAND

Project # 19-081

Date February 14, 2020

Sheet #

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	40	173	52	20	95	174	1487	88	110	2070	20
Future Volume (veh/h)	102	40	173	52	20	95	174	1487	88	110	2070	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	102	40	173	52	20	0	174	1487	0	110	2070	20
Adj No. of Lanes	0	1	1	0	1	1	1	3	1	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	51	575	68	26	518	467	2149	669	487	2255	22
Arrive On Green	0.10	0.10	0.10	0.05	0.05	0.00	0.26	0.42	0.00	0.55	0.87	0.87
Sat Flow, veh/h	1292	507	1583	1298	499	1583	1774	5085	1583	1774	5194	50
Grp Volume(v), veh/h	142	0	173	72	0	0	174	1487	0	110	1351	739
Grp Sat Flow(s),veh/h/ln	1798	0	1583	1798	0	1583	1774	1695	1583	1774	1695	1854
Q Serve(g_s), s	9.3	0.0	0.0	4.7	0.0	0.0	9.6	28.6	0.0	3.8	31.0	31.1
Cycle Q Clear(g_c), s	9.3	0.0	0.0	4.7	0.0	0.0	9.6	28.6	0.0	3.8	31.0	31.1
Prop In Lane	0.72		1.00	0.72		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	180	0	575	94	0	518	467	2149	669	487	1472	805
V/C Ratio(X)	0.79	0.00	0.30	0.76	0.00	0.00	0.37	0.69	0.00	0.23	0.92	0.92
Avail Cap(c_a), veh/h	271	0	655	271	0	674	467	2149	669	487	1472	805
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.67	0.67	0.67
Uniform Delay (d), s/veh	52.7	0.0	27.3	56.1	0.0	0.0	36.1	28.3	0.0	20.5	6.5	6.5
Incr Delay (d2), s/veh	8.5	0.0	0.3	11.9	0.0	0.0	0.5	1.9	0.0	0.2	7.6	12.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	4.1	2.7	0.0	0.0	4.8	13.7	0.0	1.9	14.3	17.2
LnGrp Delay(d),s/veh	61.3	0.0	27.6	68.1	0.0	0.0	36.6	30.1	0.0	20.6	14.1	19.1
LnGrp LOS	E		C	E			D	C		C	B	B
Approach Vol, veh/h		315			72			1661			2200	
Approach Delay, s/veh		42.8			68.1			30.8			16.1	
Approach LOS		D			E			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	37.5	55.2		16.5	36.1	56.6		10.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	15.1	50.7		18.1	13.7	52.1		18.1
Max Q Clear Time (g_c+I1), s	5.8	30.6		11.3	11.6	33.1		6.7
Green Ext Time (p_c), s	0.1	9.8		0.8	0.1	13.0		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	24.7
HCM 2010 LOS	C

Option 2: Connect Snyder Avenue to W. Appion Way and signalize. Connections available via several options.

Overview

Option 2a: Route Snyder Avenue around the bowling alley parking lot and connect with W. Appion Way via the frontage road

Pros:

- Accomplishes all project goals.
- Improves the operation at all project intersections, including providing signalization at W. Appion Way to accommodate future development.
- ROW impacts are moderate; the alignment connects to W. Appion Way without impacting the apartment and other properties.
- Improves access for emergency responders and both the west and east side of S. Carson Street.
- Possible opportunity for private partnership for funding

Cons:

- The alignment via the frontage road is not ideal and is circuitous.
- Alignment via the frontage road would be indirect and create longer travel times for some vehicles that currently enter/exit via Snyder Avenue.
- High Costs

Access Detail

- **Emergency response**: Access is significantly improved for emergency response to the west side. Emergency responders would travel the realigned Snyder Avenue to the signalized crossing.
- **West side/W. Appion Way**: Access is significantly improved. A signal at the W. Appion location allows for direct access for traffic entering and exiting without diverting to other routes.
- **East side/Frontage Road**: Access is significantly improved. The realignment of Snyder Avenue and signalization allows for direct access for traffic entering and exiting for properties along the frontage road.

Option 2b: Provide a connection at W. Appion Way via Roland Street and the frontage Road

Pros:

- Accomplishes all project goals.
- Improves the operation at all project intersections, including providing signalization at W. Appion Way to accommodate future development. However, the route is indirect and may result in longer travel times.
- Connects to W. Appion Way without impacting the apartment complex and other properties, however, ROW impacts are significant.
- Improves access for emergency responders and both the west and east side of S. Carson Street.
- Possible opportunity for private partnership for funding

Cons:

- Longer route for some emergency response trips
- The alignment via the frontage road is not ideal and is circuitous.
- Alignment via the frontage road would be indirect and create longer travel times for some vehicles that currently enter/exit via Snyder Avenue.
- Additional roadway improvements expected for Oak street from Snyder Avenue to Roland Street.
- ROW does not currently exist and may not be available or have challenges due to the proximity of the stormwater basin.
- High costs.

Access Detail

- **Emergency response**: Access is moderately improved for emergency response to the west side. Emergency responders would travel down Oak Street then along the realigned Roland Avenue/frontage road to the signalized crossing. This is an improvement, but not as direct a route as other options.
- **West side/W. Appion Way**: Access is significantly improved. A signal at the W. Appion location allows for direct access for traffic entering and exiting without diverting to other routes.
- **East side/Frontage Road**: Access is significantly improved. A signal at this location allows for direct access for traffic entering and exiting properties along the frontage road.

Option 2c: Align Snyder Avenue with W Appion Way via an "S-curve" through the bowling alley (25 mph and 35 mph options)

Pros:

- Accomplishes all project goals.
- Improves the operation at all project intersections, including providing signalization at W. Appion Way to accommodate future development.
- Provides a direct route for emergency responders.
- Improves access for both the west and east side of S. Carson Street.
- Does not use the frontage roads. This will facilitate a more traditional geometric approach than using the frontage roads.
- Possible opportunity for private partnership for funding

Cons:

- Frontage Road may still need to connect to realigned Snyder Avenue
- High property impacts and driveway realignments (25 mph is less impactful).
- Only feasible if constructed by property owner.

Access Detail

- **Emergency response**: Access is significantly improved for emergency response to the west side. Emergency responders would travel the realigned Snyder Avenue to the signalized crossing.
- **West side/W. Appion Way**: Access is significantly improved. A signal at the W. Appion location allows for access for traffic entering and exiting without diverting to other routes.
- **East side/Frontage Road**: Access is significantly improved. The properties on the east side would have direct access for traffic entering and exiting via the signal, frontage road and realigned

Snyder Avenue. The apartment complex would lose direct access to the frontage road to the north and may be rerouted via S. Caron Street or the realigned Snyder Avenue.

Option 2d: Align Snyder Avenue with W. Appion Way directly

Pros:

- Accomplishes all project goals.
- Improves the operation at all project intersections, including providing signalization at W. Appion Way to accommodate future development.
- Provides a direct route for emergency responders.
- Improves access for both the west and east side of S. Carson Street.
- Does not use the frontage roads. This will facilitate a more traditional geometric approach than using the frontage roads.

Cons:

- High property impacts/ ROW.
- High costs

Access Detail

- **Emergency response**: Access is significantly improved for emergency response to the west side. Emergency responders would travel the realigned Snyder Avenue to the signalized crossing.
- **West side/W. Appion Way**: Access is significantly improved. A signal at the W. Appion location allows for direct access for traffic entering and exiting without diverting to other routes.
- **East side/Frontage Road**: Access is significantly improved. The properties on the east side would have direct access for traffic entering and exiting via the signal, frontage road and realigned Snyder Avenue. The apartment complex would lose direct access to the frontage road to the north and may be rerouted via S. Caron Street or the realigned Snyder Avenue. Exact connections to properties on the east side to be determined.

Option 2e: Route Snyder Avenue around the bowling alley parking lot and connect with W. Appion Way via the frontage road with mini-roundabout (variation of Alternative 2a)

Pros:

- Accomplishes all project goals.
- Improves the operation at all project intersections, including providing signalization at W. Appion Way to accommodate future development.
- ROW impacts are moderate; the alignment connects to W. Appion Way without impacting the apartment and other properties.
- Improves access for emergency responders and both the west and east side of S. Carson Street.
- Possible opportunity for private partnership for funding

Cons:

- The alignment via the frontage road is not ideal and is circuitous.
- Access to/from some properties on the east side adjacent to the mini-roundabout to the frontage road may be restricted.
- The mini-roundabout may pose a safety issue if queues for the westbound approach extend and prohibit the left and right movements from S. Carson Street from entering.

- Alignment via the frontage road would be indirect and create longer travel times for some vehicles that currently enter/exit via Snyder Avenue.
- High Costs

Access Detail

- **Emergency response**: Access is significantly improved for emergency response to the west side. Emergency responders would travel the realigned Snyder Avenue to the signalized crossing.
- **West side/W. Appion Way**: Access is significantly improved. A signal at the W. Appion location allows for direct access for traffic entering and exiting without diverting to other routes.
- **East side/Frontage Road**: Access is significantly improved. The properties on the east side would have direct access for traffic entering and exiting via the signal, frontage road and realigned Snyder Avenue. There will be some restricted access with the mini-roundabout. Traffic entering the apartment complex would be restricted from the frontage road southbound.

Analysis

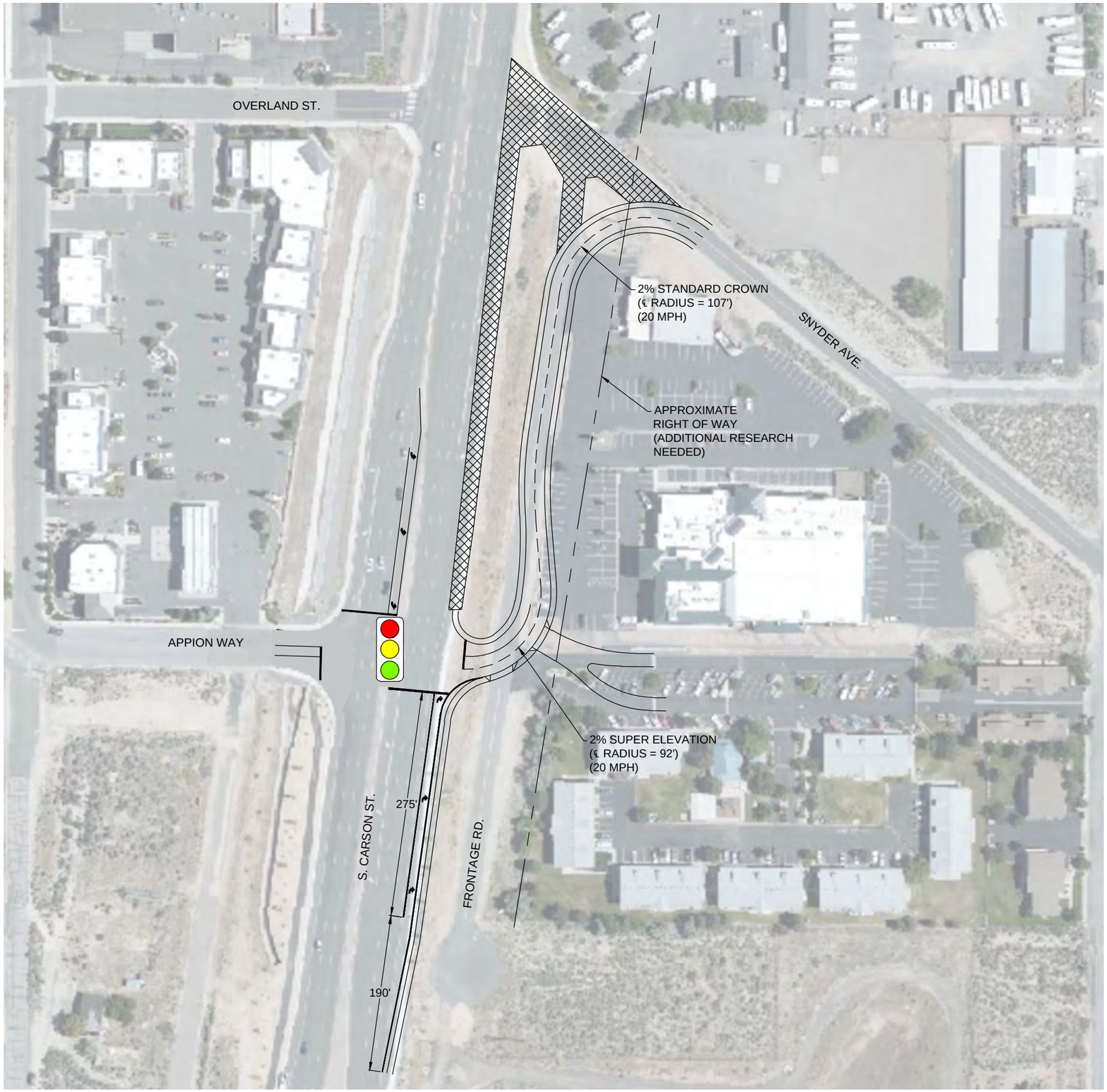
- Volume Rerouting/Assumptions: All traffic from Snyder Avenue reroutes to new W. Appion Way connection. Some traffic from Clearview Drive would reroute to the new signalized intersection.
- Phasing:
    - Protected lefts NB/SB
    - Split phase EB/WB
- The Synchro results are included; the operation is acceptable.
    - ***Overall: LOS C***
    - NBL: LOS E
    - NBT: LOS B
    - SBL: LOS E
    - SBT: LOS C
    - EB: LOS D (with no side street improvements)
    - WB: LOS E (with no side street improvements)
    - Southbound queues do not extend to Clearview Drive
    - Westbound queues may back up through frontage road and potentially block driveways if the frontage road is utilized
- This improves delay at W. Appion Way over unsignalized conditions.

Summary

Option 2 is viable operationally and addresses the needs of the project. This option has several different variations for the alignment:

- Option 2a: Move forward to Final Alternatives as the most effective alignment to accomplish project goals with reasonable impacts.
- Option 2b: Eliminated due to the high impacts and only moderate improvement to access given that the alignment is further from W. Appion Way and Snyder Avenue.
- Option 2c: This option accomplishes the project goals, but property impacts are high. Eliminated unless constructed by the property owner.
- Option 2d: Eliminated due to high property impacts.

- Option 2e: This option, like 2a, moves forward as the most effective alignment to accomplish project goals with reasonable impacts. The mini-roundabout requires further investigation for access, operation and safety considerations.



ASSOCIATED IMPROVEMENTS	COST
TRAFFIC SIGNAL	$ 500,000
INTERCONNECT TO CLEARVIEW	$ 150,000
SNYDER / S. CARSON/FRONTAGE DEMOLITION	$ 300,000
RIGHT TURN LANE TO FRONTAGE	$ 350,000
SNYDER / FRONTAGE IMPROVEMENTS	$ 750,000
MOUNTAIN VIEW VILLAGE APARTMENTS DRIVEWAY	$ 100,000
APPION / S. CARSON MODIFICATIONS	$ 200,000
ROADWAY / INTERSECTION STRIPING	$ 50,000
TOTAL	$2,400,000

EASEMENTS/PROCUREMENT OF PROPERTY REQUIRED FOR THIS OPTION.

SOUTHWEST CARSON CITY CIRCULATION STUDY
SNYDER AVE AND APPION WAY ALTERNATIVES

PREPARED FOR: CARSON CITY

N

HEADWAY TRANSPORTATION
5482 Longley Lane, Suite B
Reno, NV 89511
(775) 322-4300

ALTERNATIVE 2a:
CONNECT SNYDER
W/ APPION
AND SIGNALIZE

Project # 19-081

Date February 20, 2020

Sheet # B - 12

ASSOCIATED IMPROVEMENTS	COST
TRAFFIC SIGNAL	$ 500,000
INTERCONNECT TO CLEARVIEW	$ 300,000
INTERSECTION IMPROVEMENTS	$ 150,000
ROLAND EXTENSION/FRONTAGE RECONSTRUCTION	$1,500,000
INTERSECTION/ROADWAY STRIPING	$ 50,000
TOTAL	$2,500,000

EASEMENTS/PROCUREMENT OF PROPERTY REQUIRED FOR THIS OPTION.

SOUTHWEST CARSON CITY CIRCULATION STUDY
SNYDER AVE AND APPION WAY OPTIONS

PREPARED FOR: CARSON CITY

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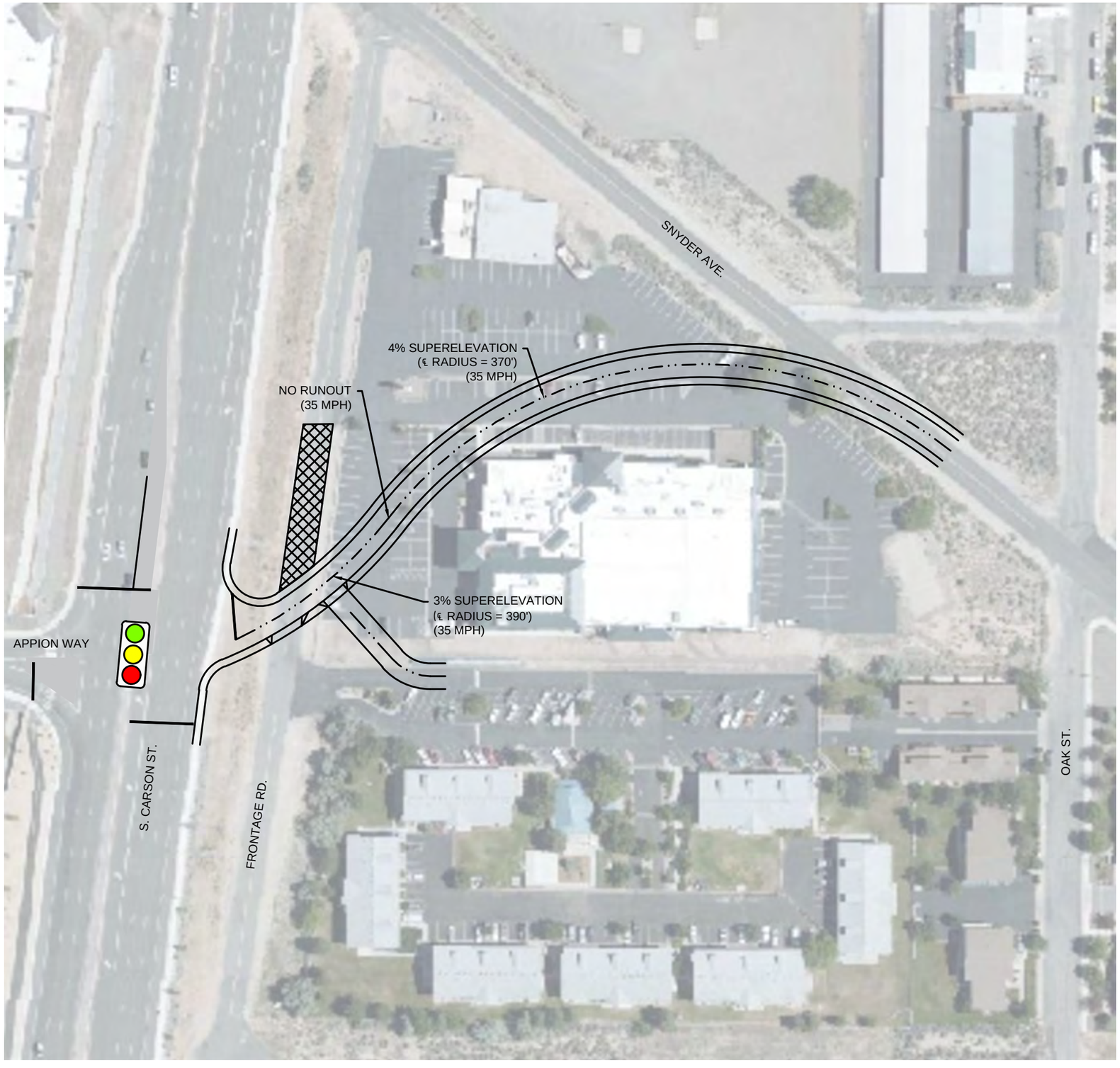
HEADWAY TRANSPORTATION
5482 Longley Lane, Suite B
Reno, NV 89511
(775) 322-4300

ALTERNATIVE 2b:
CONNECT APPION
VIA ROLAND

Project # 19-081

Date February 14, 2020

Sheet #



ASSOCIATED IMPROVEMENTS		COST
TRAFFIC SIGNAL		$ 500,000
INTERCONNECT TO CLEARVIEW		$ 300,000
INTERSECTION IMPROVEMENTS		$ 170,000
SNYDER REALIGNMENT		$ 800,000
INTERSECTION/ROADWAY STRIPING		$ 30,000
	TOTAL	$1,800,000

EASEMENTS/PROCUREMENT OF PROPERTY REQUIRED FOR THIS OPTION.

SOUTHWEST CARSON CITY CIRCULATION STUDY
SNYDER AVE AND APPION WAY OPTIONS

PREPARED FOR: CARSON CITY

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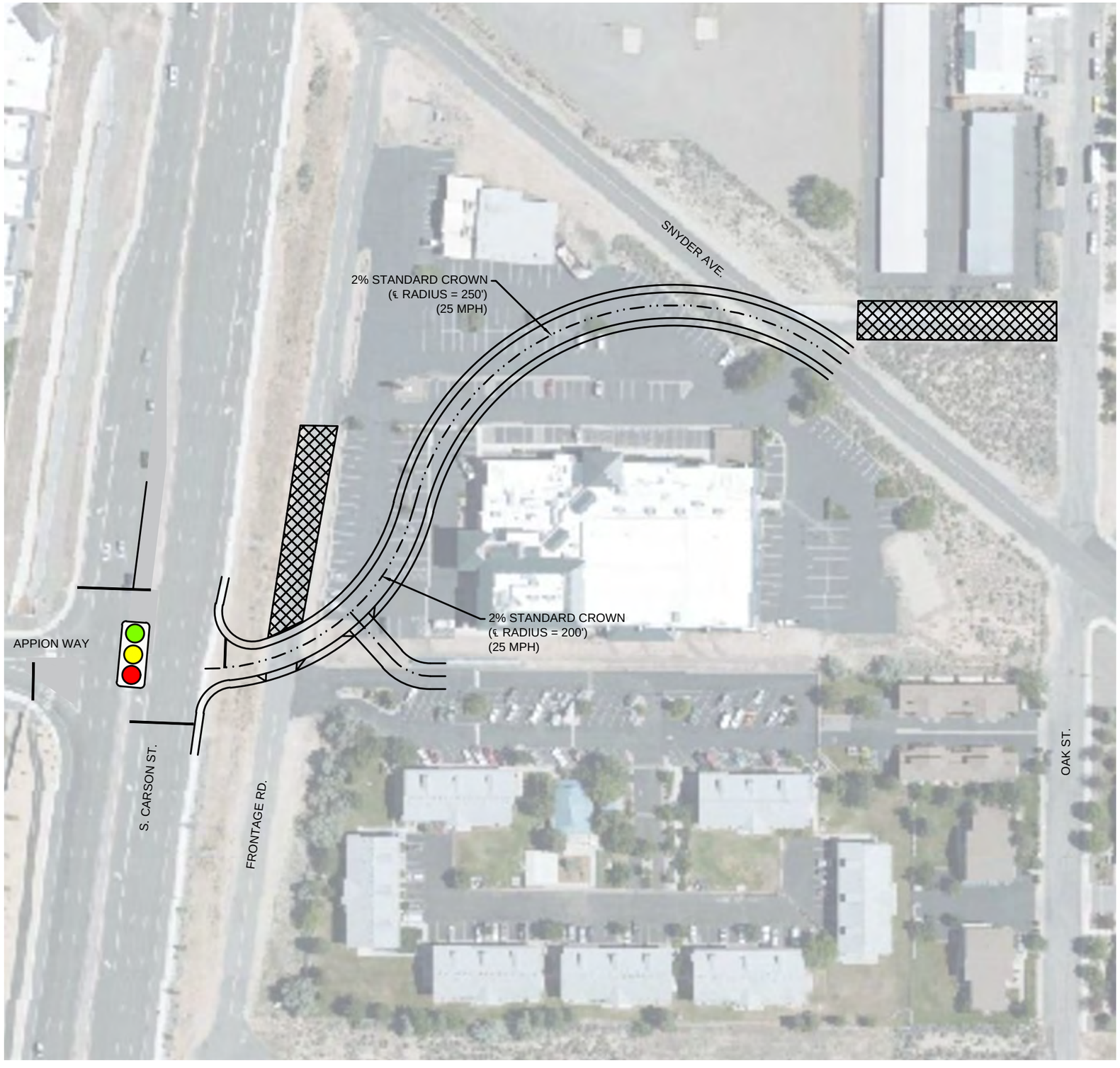
HEADWAY TRANSPORTATION
5482 Longley Lane, Suite B
Reno, NV 89511
(775) 322-4300

ALTERNATIVE 2c:
ALIGN SNYDER WITH
APPION VIA "S-CURVE"
(35 MPH)

Project # 19-081

Date February 14, 2020

Sheet #



ASSOCIATED IMPROVEMENTS		COST
TRAFFIC SIGNAL		$ 500,000
INTERCONNECT TO CLEARVIEW		$ 300,000
INTERSECTION IMPROVEMENTS		$ 170,000
SNYDER REALIGNMENT		$ 800,000
INTERSECTION/ROADWAY STRIPING		$ 30,000
	TOTAL	$1,800,000

EASEMENTS/PROCUREMENT OF PROPERTY REQUIRED FOR THIS OPTION.

SOUTHWEST CARSON CITY CIRCULATION STUDY
SNYDER AVE AND APPION WAY OPTIONS

PREPARED FOR: CARSON CITY

N

HEADWAY TRANSPORTATION
5482 Longley Lane, Suite B
Reno, NV 89511
(775) 322-4300

ALTERNATIVE 2c:
ALIGN SNYDER WITH
APPION VIA "S-CURVE"
(25 MPH)

Project # 19-081

Date February 14, 2020

Sheet #

ASSOCIATED IMPROVEMENTS	COST
TRAFFIC SIGNAL	$ 500,000
INTERCONNECT TO CLEARVIEW	$ 300,000
INTERSECTION IMPROVEMENTS	$ 100,000
SNYDER REALIGNMENT	$1,000,000
OAK REALIGNMENT	$ 300,000
OAK BULB/DRIVEWAY REALIGNMENT	$ 150,000
APPION BULB/PARK DRIVEWAY	$ 150,000
INTERSECTION/ROADWAY STRIPING	$ 100,000
TOTAL	$2,600,000

EASEMENTS/PROCUREMENT OF MULITPLE PROPERTIES REQUIRED FOR THIS OPTION.

SOUTHWEST CARSON CITY CIRCULATION STUDY
SNYDER AVE AND APPION WAY OPTIONS

PREPARED FOR: CARSON CITY

N

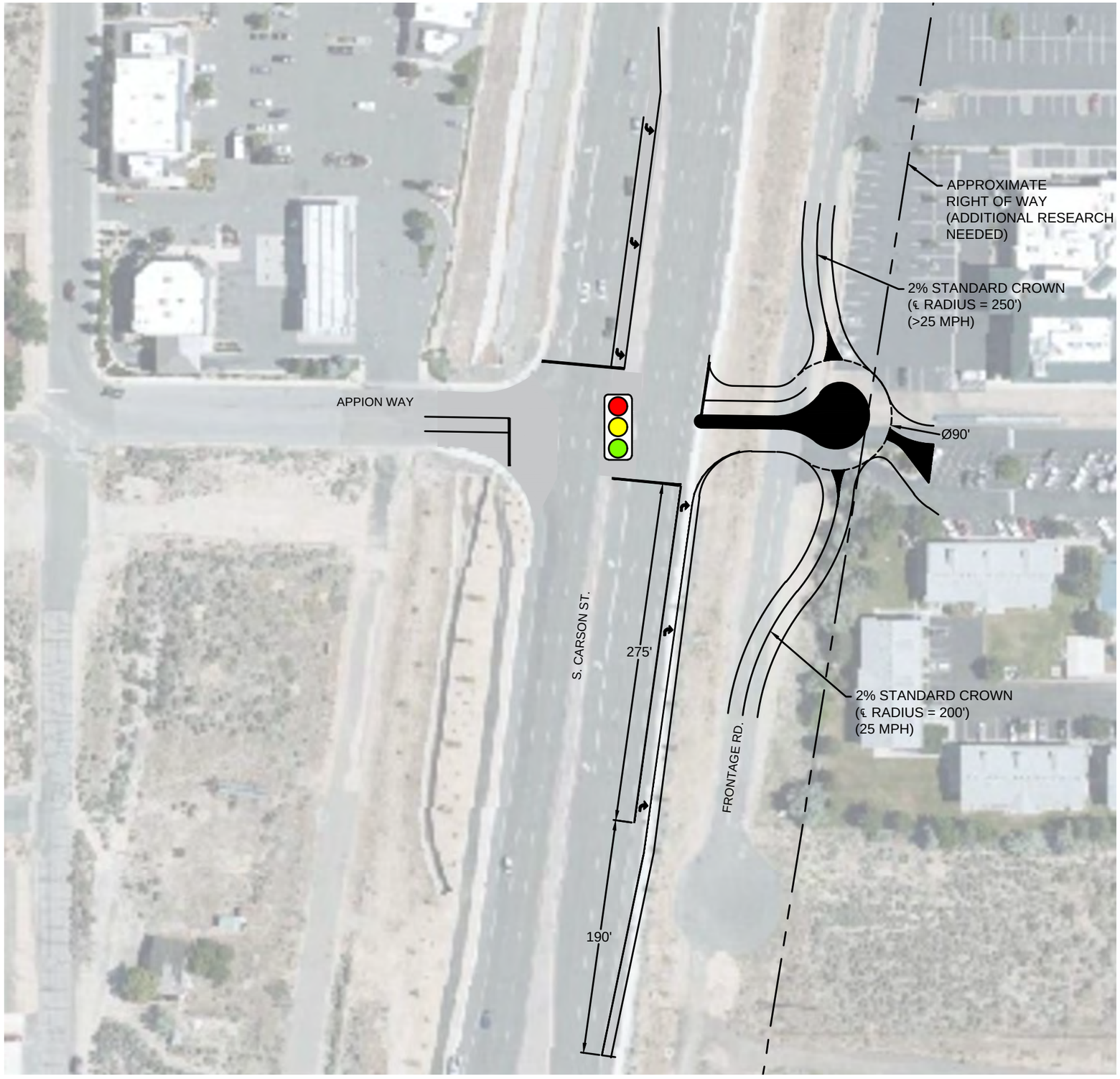
HEADWAY TRANSPORTATION
5482 Longley Lane, Suite B
Reno, NV 89511
(775) 322-4300

ALTERNATIVE 2d:
ALIGN SNYDER WITH
APPION DIRECTLY

Project # 19-081

Date February 14, 2020

Sheet #



ASSOCIATED IMPROVEMENTS	COST
SIGNAL AND MINI- ROUND ABOUT WITH REALIGNMENTS	$2.5M - $3.0M

EASEMENTS/PROCUREMENT OF PROPERTY REQUIRED FOR THIS OPTION.

SOUTHWEST CARSON CITY CIRCULATION STUDY
SNYDER AVE AND APPION WAY ALTERNATIVES

PREPARED FOR: CARSON CITY

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HEADWAY TRANSPORTATION
5482 Longley Lane, Suite B
Reno, NV 89511
(775) 322-4300

ALTERNATIVE 2e:
SIGNALIZE APPION/
S. CARSON
WITH
MINI-ROUNDABOUT

Project # 19-081

Date February 20, 2020

Sheet #

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	40	327	52	20	95	270	1684	88	110	1922	182
Future Volume (veh/h)	100	40	327	52	20	95	270	1684	88	110	1922	182
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	100	40	0	52	20	95	270	1684	88	110	1922	182
Adj No. of Lanes	0	1	1	0	1	0	1	3	0	1	3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	126	50	155	63	24	114	302	2617	137	138	2218	846
Arrive On Green	0.10	0.10	0.00	0.12	0.12	0.12	0.17	0.53	0.53	0.08	0.44	0.44
Sat Flow, veh/h	1285	514	1583	520	200	950	1774	4949	258	1774	5085	1583
Grp Volume(v), veh/h	140	0	0	167	0	0	270	1153	619	110	1922	182
Grp Sat Flow(s),veh/h/ln	1799	0	1583	1669	0	0	1774	1695	1817	1774	1695	1583
Q Serve(g_s), s	7.8	0.0	0.0	10.0	0.0	0.0	15.3	24.9	24.9	6.2	35.1	6.2
Cycle Q Clear(g_c), s	7.8	0.0	0.0	10.0	0.0	0.0	15.3	24.9	24.9	6.2	35.1	6.2
Prop In Lane	0.71		1.00	0.31		0.57	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	176	0	155	201	0	0	302	1792	961	138	2218	846
V/C Ratio(X)	0.80	0.00	0.00	0.83	0.00	0.00	0.90	0.64	0.64	0.80	0.87	0.22
Avail Cap(c_a), veh/h	316	0	278	293	0	0	334	1817	974	192	2318	877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.2	0.0	0.0	44.1	0.0	0.0	41.6	17.2	17.3	46.5	26.2	12.6
Incr Delay (d2), s/veh	7.9	0.0	0.0	12.4	0.0	0.0	23.7	0.8	1.4	14.8	3.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	5.3	0.0	0.0	9.5	11.7	12.8	3.6	17.1	3.3
LnGrp Delay(d),s/veh	53.2	0.0	0.0	56.4	0.0	0.0	65.3	18.0	18.7	61.3	29.8	12.7
LnGrp LOS	D			E			E	B	B	E	C	B
Approach Vol, veh/h		140			167			2042			2214	
Approach Delay, s/veh		53.2			56.4			24.5			30.0	
Approach LOS		D			E			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	58.7		14.5	21.9	49.2		16.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	11.1	54.9		18.0	19.3	46.7		18.0
Max Q Clear Time (g_c+I1), s	8.2	26.9		9.8	17.3	37.1		12.0
Green Ext Time (p_c), s	0.1	13.7		0.4	0.2	7.6		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	29.2
HCM 2010 LOS	C

Option 3: Signalize W. Appion Way with a northbound right connection to east side

Overview

This option would create a partial access signal with W. Appion Way. Connection to the east side is only provided via a northbound right turn in.

Pros:

- Improves the operation at W Appion Way.
- Improves access for the west side and partially to east side of S. Carson Street.
- Does not use the frontage roads.
- Minimal/no ROW impacts
- Medium Costs
- Possible opportunity for private partnership for funding

Cons:

- Does NOT accomplish the project goals of improving emergency response, accommodating left turns from Snyder Avenue and providing a signalized crossing.

Access Detail

- **Emergency response**: Access is not improved for emergency response to the west side.
- **West side/W. Appion Way**: Access is significantly improved. A signal at the W. Appion Way location allows for direct access for traffic entering and exiting without diverting to other routes.
- **East side/Frontage Road**: Access is significantly improved for traffic entering from northbound via a right turn. Access is not improved for traffic entering from southbound or exiting the east side properties.

Analysis

- The Synchro results are included; the operation is acceptable.
    - ***Overall: LOS C***
    - NBL: LOS C
    - NBT: LOS A
    - SBT: LOS D
    - EB: LOS C

Summary

Option 3 is deferred from further consideration since it does not meet the primary goals of the project. However, this option should be considered if a connection to the east cannot be accomplished as it does provide significant improvement to W. Appion Way to mitigate traffic from anticipated development.

ASSOCIATED IMPROVEMENTS	COST
TRAFFIC SIGNAL	$ 500,000
INTERCONNECT TO CLEARVIEW	$ 150,000
RIGHT TURN LANE TO FRONTAGE	$ 350,000
APPION / S. CARSON MODIFICATIONS	$ 75,000
ROADWAY / INTERSECTION STRIPING	$ 25,000
TOTAL	$1,100,000

SOUTHWEST CARSON CITY CIRCULATION STUDY
SNYDER AVE AND APPION WAY ALTERNATIVES

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HEADWAY TRANSPORTATION
5482 Longley Lane, Suite B
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ALTERNATIVE 3:
SIGNALIZE
APPION/S. CARSON

Project # 19-081

Date February 20, 2020

Sheet #

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	327	270	1684	1922	182
Future Volume (veh/h)	0	327	270	1684	1922	182
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	355	293	1830	2089	198
Adj No. of Lanes	1	1	1	3	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	74	677	684	4492	2339	728
Arrive On Green	0.00	0.04	0.39	0.88	0.46	0.46
Sat Flow, veh/h	1774	1583	1774	5253	5253	1583
Grp Volume(v), veh/h	0	355	293	1830	2089	198
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1695	1695	1583
Q Serve(g_s), s	0.0	0.0	14.6	7.9	45.2	9.3
Cycle Q Clear(g_c), s	0.0	0.0	14.6	7.9	45.2	9.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	74	677	684	4492	2339	728
V/C Ratio(X)	0.00	0.52	0.43	0.41	0.89	0.27
Avail Cap(c_a), veh/h	399	967	684	4492	2339	728
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	25.3	27.1	1.3	29.7	20.0
Incr Delay (d2), s/veh	0.0	0.6	0.4	0.3	5.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.9	7.2	3.7	22.3	4.2
LnGrp Delay(d),s/veh	0.0	26.0	27.5	1.6	35.4	20.9
LnGrp LOS		C	C	A	D	C
Approach Vol, veh/h	355			2123	2287	
Approach Delay, s/veh	26.0			5.1	34.2	
Approach LOS	C			A	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		110.5		9.5	50.8	59.7		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		84.5		27.0	24.8	55.2		
Max Q Clear Time (g_c+I1), s		9.9		2.0	16.6	47.2		
Green Ext Time (p_c), s		21.5		1.3	0.5	6.8		

Intersection Summary	
HCM 2010 Ctrl Delay	20.6
HCM 2010 LOS	C

Option 4: Route traffic via Oak Street to Clearview

Overview

This option would route emergency response and other traffic wanting to turn left from Snyder Avenue to S. Carson Street north on Oak Street to turn left on Clearview then left on S. Carson Street. This option would include roadway and intersection improvements along the route.

Pros:

- Minimal property impacts
- Provides a way to cross S. Carson Street.

Cons:

- Does not accomplish primary project goals.
- Would be an indirect route
- Roadway improvements to Oak Street between Snyder Avenue and Clearview Drive would be needed
- Does not address need to improve W. Appion Way

Access Detail

- **Emergency response**: Access is minimally improved for emergency response as this route is currently available. If implemented, improvements to Oak Street and the Oak Street/Clearview Drive and S. Carson Street/Clearview Drive may marginally improve response time.
- **West side/W. Appion Way**: Access is not improved for the west side.
- **East side/Frontage Road**: Access is not improved for the east side except for possible marginal improvements to routes that currently exist.

Analysis

- The analysis was to determine if rerouting traffic to Clearview Drive would degrade the operation at Clearview/S. Carson Street.
- Volume Rerouting/Assumptions: All Snyder Avenue traffic diverts to Clearview Drive
- This had no significant impact on operations at Clearview Drive; the Synchro results are included. Some approaches are degraded, and the overall LOS remains C.
- However, there is added delay from travel time up Oak Street and STOP at Oak/Clearview.

Summary

Option 4 is viable operationally; the delay at Clearview was similar with and without the rerouted traffic. However, additional travel time and delay occurs by creating an indirect route. This option does not accomplish all the goals of the project, does not improve access, does not address conditions at W. Appion Way and was therefore eliminated.

SOUTHWEST CARSON CITY CIRCULATION STUDY
SNYDER AVE AND APPION WAY OPTIONS

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ALTERNATIVE 4:
Route Traffic via
Oak Street

Project # 19-081

Date February 14, 2020

Sheet #

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	96	167	381	102	65	108	1200	238	58	1664	79
Future Volume (veh/h)	209	96	167	381	102	65	108	1200	238	58	1664	79
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	209	96	0	381	102	65	108	1200	238	58	1664	79
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	289	352	299	439	659	560	133	1740	778	74	2282	108
Arrive On Green	0.19	0.19	0.00	0.13	0.35	0.35	0.07	0.49	0.49	0.04	0.46	0.46
Sat Flow, veh/h	1214	1863	1583	3442	1863	1583	1774	3539	1583	1774	4975	236
Grp Volume(v), veh/h	209	96	0	381	102	65	108	1200	238	58	1134	609
Grp Sat Flow(s),veh/h/ln	1214	1863	1583	1721	1863	1583	1774	1770	1583	1774	1695	1821
Q Serve(g_s), s	20.3	5.3	0.0	13.0	4.5	3.3	7.2	31.3	10.8	3.9	32.6	32.7
Cycle Q Clear(g_c), s	20.3	5.3	0.0	13.0	4.5	3.3	7.2	31.3	10.8	3.9	32.6	32.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	289	352	299	439	659	560	133	1740	778	74	1555	835
V/C Ratio(X)	0.72	0.27	0.00	0.87	0.15	0.12	0.81	0.69	0.31	0.78	0.73	0.73
Avail Cap(c_a), veh/h	318	396	336	479	725	616	170	1740	778	99	1555	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	41.6	0.0	51.4	26.5	26.1	54.7	23.5	18.2	56.9	26.4	26.4
Incr Delay (d2), s/veh	7.1	0.4	0.0	14.7	0.1	0.1	20.3	2.3	1.0	24.0	3.0	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	2.8	0.0	7.1	2.3	1.5	4.3	15.7	4.9	2.4	15.9	17.7
LnGrp Delay(d),s/veh	54.8	42.0	0.0	66.1	26.6	26.2	75.0	25.7	19.3	80.9	29.4	32.0
LnGrp LOS	D	D		E	C	C	E	C	B	F	C	C
Approach Vol, veh/h		305			548			1546			1801	
Approach Delay, s/veh		50.8			54.0			28.2			32.0	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	63.5	19.8	27.2	13.5	59.6		47.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.7	53.1	16.7	25.5	11.5	48.3		46.7
Max Q Clear Time (g_c+I1), s	5.9	33.3	15.0	22.3	9.2	34.7		6.5
Green Ext Time (p_c), s	0.0	9.0	0.3	0.4	0.0	8.9		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	34.8
HCM 2010 LOS	C

Option 5: Provide U-turns- NB to SB at Clearview Drive/Carson Street, SB to NB at W. Appion Way

Overview

Pros:

- Minimal property impacts
- Low costs to modify the intersections.

Cons:

- Does not accomplish the primary project goals
- Does not provide a direct connection
- Does not improve W. Appion Way
- Would be an indirect route for some vehicles
- Does not address all the needs of the project

Access Detail

- **Emergency response**: Access is minimally improved to the west side. It does not provide a direct crossing but allows for a right turn at Snyder Avenue then a u-turn at Clearview Drive to access the west side.
- **West side/W. Appion Way**: Access is minimally improved for traffic entering and exiting via a right turn and a u-turn. This improvement to access is far less effective than providing a signalized crossing and accommodating left turns.
- **East side/Frontage Road**: Access is minimally improved for traffic entering and exiting via a right turn and a u-turn. This improvement to access if far less effective than providing a signalized crossing and accommodating left turns.

Analysis

- The analysis was to determine if adding U-turns to Clearview Drive and W. Appion Way would degrade the operations.
- Volume Rerouting/Assumptions: half of right turns at Snyder Avenue and Overland Street U-turn
- Delay increase at W. Appion and Clearview was insignificantly impacted. The Synchro results are attached.

Summary

Option 5 is viable operationally; the addition of the u-turns did not significantly impact operations at either Clearview or W. Appion Way. However, Option 5 does not accomplish all the goals of the project and is therefore eliminated.

ASSOCIATED IMPROVEMENTS		COST
ROADWAY WIDENING		$ 500,000
ROADSIDE DRAINAGE IMPROVEMENTS		$ 200,000
INTERSECTION/ROADWAY STRIPING		$ 50,000
	TOTAL	$ 750,000

EASEMENTS/PROCUREMENT OF PROPERTY REQUIRED FOR THIS OPTION.

SOUTHWEST CARSON CITY CIRCULATION STUDY
SNYDER AVE AND APPION WAY OPTIONS

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ALTERNATIVE 5:
CLEARVIEW/CARSON
&
APPION/CARSON
U-TURNS

Project # 19-081

Date February 14, 2020

Sheet #

Appendix C

Final Alternatives

Final Alternative Analysis

The final alternative screening included additional traffic analysis for the AM and PM peak hour, pedestrian considerations and a more comprehensive review of the access.

Operational Signal Analysis of 2a and 2e:

AM Peak Hour

- Same assumptions as PM, the intersection operation is acceptable. The Synchro results are included.
    - ***Overall: LOS C***
    - NBL: LOS E
    - NBT: LOS C
    - SBL: LOS E
    - SBT: LOS A
    - EB: LOS E
    - WB: LOS D

PM Peak Hour

- Several iterations of signal phasing were tested. Based on safety and operations, the following signal phasing and timing was developed. The phasing and timing should be finalized in design.
    - Northbound /southbound
        - NB and SB lefts are protected only (for safety)
        - NB and SB right turns are overlaps
    - Eastbound/westbound – with apparently enough room for 2 lanes on each approach, both configurations (left turn lane + shared thru/right and shared left/thru + right turn lane) were tested.
        - The shared left/thru + right turn lane was more efficient as a right turn overlap could be accommodated.
        - Split phased (for safety)
    - Cycle length of 120 seconds was maintained for consistency with the corridor and to coordinate.
- The Synchro results are included. The overall operation is acceptable.
    - ***Overall: LOS C***
    - NBL: LOS E
    - NBT: LOS C
    - SBL: LOS C
    - SBT: LOS A
    - EB: LOS E
    - WB: LOS E
- Volume to capacity (v/c)<1 for all movements
- 95^{th} queue lengths for the northbound left and westbound approach are close to storage capacity. Westbound queues may back up to driveways intermittently.

Note that some movements will incur extra travel time/delay by reroute:

- Carson southbound left onto Snyder:
    - Potentially more delay to turn at signalized W. Appion Way intersection (actual amount would vary). For example, in the PM, current SBL delay at Snyder is ~50 seconds. Alt 2 delay for SBL onto W. Appion Way is ~70 seconds.
    - Travel along the frontage road at ~650' at ~20mph = ~20 seconds
    - Potentially 40 seconds additional travel time
- Snyder westbound right onto Carson:
    - Potentially more delay to turn at signalized W. Appion Way intersection (actual amount would vary). For example, in the PM, current WBR delay at Snyder is ~25 seconds. Alt 2 delay for WBR onto W. Appion Way is ~40 seconds.
    - Travel along the frontage road at ~650' at ~20mph = ~20 seconds
    - Potentially 35 seconds additional travel time

Pedestrian Analysis

Additional operational analysis was conducted to include pedestrian timings. Pedestrian crossing at S. Carson Street will impact the operation. S. Carson Street will be eight lanes and the signal phase for the side street phase would be extended during the crossings. This means that the side streets will use additional percentage of the green time which will take away time from the mainline during pedestrian actuations.

Pedestrian timings were calculated based on estimated crossing times (to be finalized during the design phase) and incorporated into the analysis. Crossing times are **estimated** as:

- 7 sec 'Walk'
- 16 'Flash Don't Walk' (FDW) crossing W. Appion Way (ph 2 and 6)
- 28 FDW crossing S. Carson Street (EB ph 4)
- 10 actuations per hour / Conflicting peds 20/hr on EBR, NBR, SBR

The 120 second cycle length was retained for consistency in the corridor for coordination. With the phase timings estimated to accommodate the 'walk' and 'FDW' intervals, the level of service is downgraded and many movements, including the mainline, are LOS F in the PM. The Synchro results are included:

- ***Overall LOS: E***
- NBL: LOS F
- NBT: LOS D
- SBL: LOS D
- SBT: LOS F
- EB: LOS C
- WB: LOS F

If the cycle length is optimized to 145 seconds, there is improvement. However, there are still failing movements and queues may extend past storage on phases when pedestrians are called.

It is noted that the downgrade only occurs on cycles when pedestrian actuation is called. It is assumed that pedestrian crossings would be actuated, and this would occur infrequently during the peak hours.

Additional Analysis

ROW Impacts

For both alternatives, easement/procurement of property is required on the east side of S. Carson Street between W. Appion Way and Snyder Avenue. This would require modification to the frontage road, the apartment access and Snyder Avenue. The mini-roundabout in Alternative 2e may require additional property taking.

Access

Both Alternatives 2a and 2e improve overall access substantially but present challenges for the apartment complex and any development that may occur to the south. In Alternative 2a, access to and from the apartment complex would be direct from the realigned Snyder Avenue. Any access that would be needed south of the apartments should be determined during design. In Alternative 2e, the mini-roundabout would facilitate access to the north and south from traffic entering from S. Carson Street provided that queues from the signalized westbound approach are not blocking. However, traffic from the north could not enter the apartments or properties south of the apartments via the frontage road. Detailed access for either alternative should be determined in the design phase.

Costs

The costs are high at $2.4 - $3 million; however, both alternatives are candidates to engage property owners to participate in the funding since the alternatives significantly improve access. Alternative 2a is slightly lower cost.

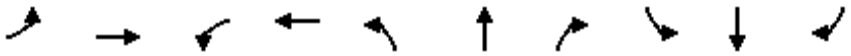
Recommendation

It is recommended that Alternative 2a and 2e be preferred alternatives, and that the detailed access on the east side connection be determined during the design phase. The alternatives address the needs of the project and provide a full access signalized intersection. This will mitigate congestion at W. Appion Way expected to occur with future development.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	30	251	31	3	109	305	1360	77	60	790	198
Future Volume (veh/h)	100	30	251	31	3	109	305	1360	77	60	790	198
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1847	1900	1863	1863	1900	1845	1845	1863	1863	1845	1845
Adj Flow Rate, veh/h	109	33	273	34	3	118	332	1478	84	65	859	215
Adj No. of Lanes	1	1	0	1	1	0	1	3	1	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	2	2	2	2	2	3	3	2	2	3	3
Cap, veh/h	317	36	299	158	8	319	364	2777	873	83	1968	613
Arrive On Green	0.05	0.21	0.21	0.04	0.21	0.21	0.21	0.55	0.55	0.09	0.78	0.78
Sat Flow, veh/h	1757	172	1423	1774	39	1550	1757	5036	1583	1774	5036	1568
Grp Volume(v), veh/h	109	0	306	34	0	121	332	1478	84	65	859	215
Grp Sat Flow(s),veh/h/ln	1757	0	1595	1774	0	1589	1757	1679	1583	1774	1679	1568
Q Serve(g_s), s	5.5	0.0	22.5	1.8	0.0	7.9	22.2	22.4	3.0	4.3	6.8	5.0
Cycle Q Clear(g_c), s	5.5	0.0	22.5	1.8	0.0	7.9	22.2	22.4	3.0	4.3	6.8	5.0
Prop In Lane	1.00		0.89	1.00		0.98	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	317	0	335	158	0	327	364	2777	873	83	1968	613
V/C Ratio(X)	0.34	0.00	0.91	0.22	0.00	0.37	0.91	0.53	0.10	0.78	0.44	0.35
Avail Cap(c_a), veh/h	317	0	379	166	0	377	520	2777	873	155	1968	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	0.0	46.3	36.7	0.0	41.0	46.5	17.1	12.7	53.8	8.7	8.5
Incr Delay (d2), s/veh	0.6	0.0	24.3	0.7	0.0	0.7	15.7	0.7	0.2	14.8	0.7	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	12.2	0.9	0.0	3.5	12.4	10.5	1.4	2.4	3.1	2.3
LnGrp Delay(d),s/veh	37.2	0.0	70.6	37.4	0.0	41.6	62.2	17.8	13.0	68.6	9.4	10.1
LnGrp LOS	D		E	D		D	E	B	B	E	A	B
Approach Vol, veh/h		415			155			1894			1139	
Approach Delay, s/veh		61.8			40.7			25.4			12.9	
Approach LOS		E			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	70.7	9.5	29.7	29.4	51.4	10.0	29.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	57.5	5.5	28.5	35.5	32.5	5.5	28.5
Max Q Clear Time (g_c+I1), s	6.3	24.4	3.8	24.5	24.2	8.8	7.5	9.9
Green Ext Time (p_c), s	0.0	12.7	0.0	0.7	0.7	6.3	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	26.3
HCM 2010 LOS	C



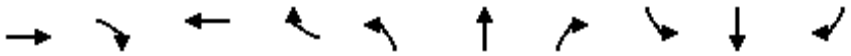
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	109	306	34	121	332	1478	84	65	859	215
v/c Ratio	0.69	0.71	0.25	0.50	0.82	0.45	0.08	0.45	0.35	0.25
Control Delay	66.8	18.3	44.3	16.0	59.1	12.3	2.2	57.3	22.1	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.8	18.3	44.3	16.0	59.1	12.3	2.2	57.3	22.1	6.4
Queue Length 50th (ft)	77	25	23	2	244	190	0	49	127	0
Queue Length 95th (ft)	120	114	48	55	324	312	20	96	208	68
Internal Link Dist (ft)		104		95		697			605	
Turn Bay Length (ft)					450					300
Base Capacity (vph)	158	587	134	467	520	3295	1068	165	2444	871
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.52	0.25	0.26	0.64	0.45	0.08	0.39	0.35	0.25

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	40	327	52	20	95	270	1684	88	110	1922	182
Future Volume (veh/h)	100	40	327	52	20	95	270	1684	88	110	1922	182
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	109	43	355	57	22	103	293	1830	96	120	2089	198
Adj No. of Lanes	0	1	1	0	1	1	1	3	1	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	51	434	76	29	406	319	2255	779	352	2347	873
Arrive On Green	0.10	0.10	0.10	0.06	0.06	0.06	0.18	0.44	0.44	0.40	0.92	0.92
Sat Flow, veh/h	1290	509	1488	1297	501	1583	1774	5085	1548	1774	5085	1549
Grp Volume(v), veh/h	152	0	355	79	0	103	293	1830	96	120	2089	198
Grp Sat Flow(s),veh/h/ln	1798	0	1488	1798	0	1583	1774	1695	1548	1774	1695	1549
Q Serve(g_s), s	10.0	0.0	12.0	5.2	0.0	0.0	19.5	37.6	4.0	5.7	21.2	1.3
Cycle Q Clear(g_c), s	10.0	0.0	12.0	5.2	0.0	0.0	19.5	37.6	4.0	5.7	21.2	1.3
Prop In Lane	0.72		1.00	0.72		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	180	0	434	105	0	406	319	2255	779	352	2347	873
V/C Ratio(X)	0.85	0.00	0.82	0.75	0.00	0.25	0.92	0.81	0.12	0.34	0.89	0.23
Avail Cap(c_a), veh/h	180	0	434	105	0	406	340	2627	892	352	2347	873
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.1	0.0	40.6	55.6	0.0	35.5	48.3	29.0	15.9	30.7	3.3	1.7
Incr Delay (d2), s/veh	29.2	0.0	11.7	26.0	0.0	0.3	28.0	3.3	0.3	0.6	5.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	12.4	3.3	0.0	2.8	12.0	18.1	2.0	2.8	9.3	0.7
LnGrp Delay(d),s/veh	82.3	0.0	52.3	81.7	0.0	35.8	76.3	32.4	16.2	31.3	8.9	2.3
LnGrp LOS	F		D	F		D	E	C	B	C	A	A
Approach Vol, veh/h		507			182			2219			2407	
Approach Delay, s/veh		61.3			55.7			37.5			9.4	
Approach LOS		E			E			D			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	29.8	59.2		18.0	27.6	61.4		13.0
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	15.0	62.0		12.0	23.0	54.0		7.0
Max Q Clear Time (g_c+I1), s	7.7	39.6		14.0	21.5	23.2		7.2
Green Ext Time (p_c), s	0.1	13.7		0.0	0.1	19.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.7
HCM 2010 LOS	C



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	152	355	79	103	293	1830	96	120	2089	198
v/c Ratio	0.86	0.66	0.75	0.22	0.90	0.76	0.11	0.41	0.90	0.21
Control Delay	92.6	23.0	94.7	3.0	77.7	27.8	2.1	48.2	31.8	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.6	23.0	94.7	3.0	77.7	27.8	2.1	48.2	31.8	1.9
Queue Length 50th (ft)	118	110	61	0	222	411	0	75	386	3
Queue Length 95th (ft)	#237	192	#146	19	#375	434	20	m104	529	m8
Internal Link Dist (ft)	104		140			697			605	
Turn Bay Length (ft)					450		400	200		300
Base Capacity (vph)	179	550	105	461	339	2627	864	293	2328	942
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.65	0.75	0.22	0.86	0.70	0.11	0.41	0.90	0.21

Intersection Summary

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	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	40	327	52	20	95	270	1684	88	110	1922	182
Future Volume (veh/h)	100	40	327	52	20	95	270	1684	88	110	1922	182
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	109	43	355	57	22	103	293	1830	96	120	2089	198
Adj No. of Lanes	0	1	1	0	1	1	1	3	1	1	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	311	123	570	54	21	273	222	1967	663	232	1996	987
Arrive On Green	0.24	0.24	0.24	0.04	0.04	0.04	0.13	0.39	0.39	0.17	0.52	0.52
Sat Flow, veh/h	1290	509	1544	1297	501	1583	1774	5085	1542	1774	5085	1543
Grp Volume(v), veh/h	152	0	355	79	0	103	293	1830	96	120	2089	198
Grp Sat Flow(s),veh/h/ln	1798	0	1544	1798	0	1583	1774	1695	1542	1774	1695	1543
Q Serve(g_s), s	8.4	0.0	22.7	5.0	0.0	0.0	15.0	41.4	4.6	7.4	47.1	5.4
Cycle Q Clear(g_c), s	8.4	0.0	22.7	5.0	0.0	0.0	15.0	41.4	4.6	7.4	47.1	5.4
Prop In Lane	0.72		1.00	0.72		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	433	0	570	75	0	273	222	1967	663	232	1996	987
V/C Ratio(X)	0.35	0.00	0.62	1.05	0.00	0.38	1.32	0.93	0.14	0.52	1.05	0.20
Avail Cap(c_a), veh/h	524	0	648	75	0	273	222	1992	670	232	1996	987
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.8	0.0	31.3	57.5	0.0	44.0	52.5	35.2	20.9	46.1	28.7	7.1
Incr Delay (d2), s/veh	0.5	0.0	1.5	119.8	0.0	0.9	172.5	9.4	0.5	2.0	33.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	9.9	5.0	0.0	3.1	18.0	21.0	2.2	3.7	27.9	3.9
LnGrp Delay(d),s/veh	38.3	0.0	32.8	178.5	0.0	44.8	225.0	44.6	21.4	48.2	62.3	7.6
LnGrp LOS	D		C	F		D	F	D	C	D	F	A
Approach Vol, veh/h		507			182			2219			2407	
Approach Delay, s/veh		34.5			102.9			67.4			57.1	
Approach LOS		C			F			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.7	52.4		34.9	21.0	53.1		11.0
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	9.0	47.0		35.0	15.0	41.0		5.0
Max Q Clear Time (g_c+I1), s	9.4	43.4		24.7	17.0	49.1		7.0
Green Ext Time (p_c), s	0.0	3.1		1.7	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	60.8
HCM 2010 LOS	E

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S. Carson Street Parallel Route Assessment

(Silver Sage Drive/ S. Roop Street and S. Curry Street/ Cochise Street)

Southwest Carson City Circulation Study

June 23, 2020

PREPARED FOR:

Carson City

PREPARED BY:

HEADWAY TRANSPORTATION

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LIST OF FIGURES

LIST OF APPENDICES

EXECUTIVE SUMMARY

The study was undertaken to evaluate the routes of Cochise Street/ S. Curry Street and S. Roop Street/ Silver Sage Drive parallel to S. Carson Street to promote healthy north-south circulation and support redevelopment and business vitality in southwest Carson City. The goal is to identify long-term roadway and intersection improvements that will enhance overall circulation and business success.

The key findings of this study are:

- Both Cochise Street/ S. Curry Street and S. Roop Street/ Silver Sage Drive have adequate capacity to accommodate additional traffic and promote circulation and development in the area. There is excess capacity should additional development be established on or should traffic be attracted to these routes from S. Carson Street.
- The studied intersections are expected to operate within LOS policy in the future year 2040 in their current configurations.
- S. Curry Street and Cochise Street are more commercial and less residential in nature than Silver Sage Drive and therefore are better suited for development and traffic increases.
- To encourage north-south circulation and S. Curry Street/ Cochise Street as a viable parallel route to S. Carson Street, high quality linkages should be created between S. Curry Street and S. Carson Street.

The following improvements (listed in general order of priority, and shown on **Figure 6**) should be considered for inclusion in the next Regional Transportation Plan (RTP) or with other City programs:

- Signalization of the W. Appion Way/S. Carson Street intersection and realignment of Snyder Avenue to W. Appion Way as described in the ***Snyder/Appion Alternatives Analysis*** report
- Extension of Stewart Street to S. Curry Street as a two-lane roadway with appropriate turn lanes, specifics to be determined by future analysis
- Pavement and striping maintenance on S. Curry Street and Cochise Street
- Revise the posted speed limit on S. Curry Street and Cochise Street to be a consistent 30 mph from the Stewart Street extension to Roland Street, subject to the recommendations of a speed limit study
- Consider intersection modifications/change of stop controls at S. Curry Street/ Koontz Lane
- Signalization of the Rhodes Street/S. Carson Street intersection (potentially privately funded by future development(s) if/when warrants are met)
- Oak Street Improvements – Roland Street to Clearview Drive
- Work collaboratively with property owners to improve access from properties south of the Snyder realignment to Oak Street

INTRODUCTION

The purpose of the study is to evaluate routes parallel to S. Carson Street to support redevelopment and business vitality. The goal is to identify long-term roadway and intersection improvements that will enhance overall circulation and business success. S. Carson Street has been designated for a complete streets redesign, including reducing the number of through lanes in some sections. This study evaluates a broader area and recommends a holistic circulation plan for southwest Carson City.

Given the anticipated growth and development in the area and complete streets project on S. Carson Street, it is beneficial to promote mobility on the valuable parallel corridors, Silver Sage Drive/ S. Roop Street to the east and Cochise Street/ S. Curry Street to the west. Ensuring that these routes offer efficient travel will attract development to the area and promote good overall circulation. The goal is to assess the current and future operations on these routes and identify and mitigate any capacity issues at key intersections.

This study builds upon the following recently completed studies:

- ***Traffic Evaluation for S. Carson Street*** (Headway, May 2019) which analyzed design year 2040 volumes including anticipated development in the area and analyzed key intersections along S. Carson Street. The report provided key recommendations for the complete streets project implementation.
- ***Snyder/ Appion Alternatives Analysis*** (Headway, May 2020) which evaluated alternatives for the realignment of Snyder Avenue with W. Appion Way to provide an additional signalized crossing of S. Carson Street.
- ***Cochise Multifamily TIA*** (Headway, February 2019) that evaluated impacts of a development on Cochise Street at Overland Drive.
- ***Amended Carson Hills SUP for 370 Units Traffic Analysis (Solaegui, March 2018)*** that evaluated the impacts of a multi-family residential development on S. Curry Street between Clearview Drive and Koontz Lane
- ***2040 Regional Transportation Plan***, (Carson Area Metropolitan Planning Organization, August 2016) which outlines the prior long-range planning in the study area.

Study Area and Evaluated Scenarios

The study limits to the west of S. Carson Street include Cochise Street and S. Curry Street between Roland Street and S. Stewart Street. The study limits to the east of S. Carson Street include Silver Sage Drive and S. Roop Street between Snyder Avenue and E. 5th Street; however, adjacent roadways that may service or enhance business development were considered. The study evaluates the roadways as a whole and the following key intersections on each corridor:

- S. Curry Street/ Cochise Street
    - 1. S. Curry Street/ Rhodes Street
    - 2. S. Curry Street/ Koontz Lane
    - 3. Cochise Street/ Clearview Drive

- 4. Cochise Street/ Overland Street
- 5. Cochise Street/ W. Appion Way

- Silver Sage Drive/ S. Roop Street
  - 6. S. Roop Street/ Little Lane
  - 7. Silver Sage Drive/ Colorado Street
  - 8. Silver Sage Drive/ Sonoma Street
  - 9. Silver Sage Drive/ Koontz Lane
  - 10. Silver Sage Drive/ Clearview Drive

The study limits, intersections, corridor roadway configurations and intersection controls are shown in **Figure 1**. **Figure 2** shows an overview of the pedestrian and bicycle facilities. Detail of the lane configurations and controls at the study intersections is presented in **Figure 3**.

This study included analysis of the weekday AM and PM peak hours as these are the periods of time in which peak traffic is anticipated to occur. The evaluated development scenarios are:

- Existing Conditions
- Future Year 2040 Conditions

Traffic Volumes

New traffic counts were conducted at the study intersections in November 2019 with school in regular session. Counts at the three study intersections with Cochise Street (Clearview Drive, Overland Street and W. Appion Way) were collected for the ***Cochise Multifamily TIA*** in August 2018 and increased by 5% to account for seasonality. Counts were collected during the following periods:

- AM period between 7:00 AM and 9:00 AM
- PM period between 4:00 PM and 6:00 PM

Annual Average Daily Traffic (AADT) data from the Nevada Department of Transportation (NDOT) TRINA database was available at four locations within the corridors.

Figure 4 shows the existing traffic volumes and AADT data.

ANALYSIS METHODOLOGY

Level of service (LOS) is a term commonly used by transportation practitioners to measure and describe the operational characteristics of intersections, roadway segments, and other facilities. This term equates seconds of delay per vehicle at intersections to letter grades “A” through “F” with “A” representing optimum conditions and “F” representing breakdown or over capacity flows.

Intersections

Intersection level of service methodology is established in the *Highway Capacity Manual (HCM) 2010*, published by the Transportation Research Board (TRB). The methodology for signalized intersections determines the level of service by comparing the average control delay for the overall intersection to the delay thresholds in **Table 1**. Level of service at unsignalized (side-street stop controlled) intersections is determined by comparing the average control delay for the worst movement/ approach to the delay thresholds in **Table 1.**

Table 1: Level of Service Definition for Intersections

Level of Service	Brief Description	Average Delay (seconds per vehicle)	
		Signalized Intersections	Unsignalized Intersections
A	Free flow conditions.	< 10	< 10
B	Stable conditions with some affect from other vehicles.	10 to 20	10 to 15
C	Stable conditions with significant affect from other vehicles.	20 to 35	15 to 25
D	High density traffic conditions still with stable flow.	35 to 55	25 to 35
E	At or near capacity flows.	55 to 80	35 to 50
F	Over capacity conditions.	> 80	> 50

Source: Highway Capacity Manual (2010), Chapters 18 through 21

Level of service calculations were performed using the Synchro 9 software package with results reported in accordance with the current *HCM 2010* methodology.

Level of Service Policies

Carson City Municipal Code states that "A traffic LOS D or better…shall be maintained through mitigation of impacts from all conditions on all city maintained arterial, and collector roads and at city road intersections, except as noted in the Carson City master plan." Therefore, LOS D or better is deemed an acceptable operating condition. The LOS policy is not specific regarding side streets or minor movements. It is understood that minor movements and side-street approaches on major arterials will commonly operate at LOS E or F during peak hours. This is a commonly accepted and manageable condition because it is not appropriate to signalize every minor street intersecting major arterials.

Hence, LOS "D" was used as the threshold criteria for this analysis consistent with City policy.

EXISTING CONDITIONS

Silver Sage Drive/ S. Roop Street

Silver Sage Drive/ S. Roop Street has a north-south orientation and is parallel to and east of S. Carson Street. The study limits include approximately 2.7 miles of roadway between Snyder Avenue to the south and E. 5th Street to the north. The roadway is classified as a Minor Collector. The posted speed limit is generally 30 mph with a 25-mph section from Fairview Drive to Koontz Lane. The street name is Silver

Sage Drive to the south of Colorado Street and S. Roop Street to the north. The corridor is primarily two or three lanes, one lane in each direction with a continuous two-way-left-turn lane (TWLTL) in some parts. North of Fairview Drive, the corridor is primarily four lanes. There are sections of worn pavement between Pat Lane and Koontz Lane, and between Little Lane and Fairview. All intersections in the project corridor are side-street stop controlled except for:

- Silver Sage Drive at Clearview Drive – All-Way Stop
- Silver Sage Drive at Koontz Lane – All-Way Stop
- Silver Sage Drive at Sonoma Street – All-Way Stop
- Silver Sage Drive at Colorado Street – Signal
- S. Roop Street at Fairview Drive – Signal
- S. Roop at Little Lane – Signal
- S. Roop Street at E 5th Street - Signal

The surrounding land use is a mix of residential and commercial and varies throughout the corridor as characterized below:

- Snyder Avenue to Clearview Drive: primarily residential with direct driveway access
- Clearview Drive to Koontz Lane: primarily commercial or residential with no direct driveway access to single family residential
- Koontz Lane to Sonoma Street: primarily residential with some direct driveway access and limited commercial uses
- Sonoma Street to Colorado Street: primarily residential with direct driveway access
- Colorado Street to Fairview Drive: primarily residential with direct driveway access
- Fairview Drive to E. 5th Street: primarily commercial.

Cochise Street / S. Curry Street

Cochise Street/ S. Curry Street has a north-south orientation and is parallel to and west of S. Carson Street. The study limits are approximately 2.2 miles between Roland Street to the south and S. Stewart Street to the north. Stewart Street does not currently connect to S. Curry Street but is planned to in the future. The roadway is classified as a Minor Collector. The posted speed limit is 25 mph from Roland Street to Moses Street, and 35 mph north of Moses Street to Stewart Street. The street name is Cochise Street to the south of Clearview Drive and S. Curry Street to the north. The corridor is primarily two or three lanes, one lane in each direction with a TWLTL in some parts. Several sections have worn pavement and/or worn striping including:

- W. Appion Way to Clearview Drive
- Clearview Drive to Koontz Lane
- The intersection with Koontz Lane
- Rhodes Street to Stewart Street

Traversing the corridor in the project limits, all intersections are side-street stop controlled except for:

- Cochise Street/ W. Appion Way – Stop on Cochise Street (all-way stop is recommended by prior study condition with future development)
- Cochise Street/ Clearview Drive – All-Way Stop
- S. Curry Street/ Koontz Lane – All-Way Stop

The surrounding land use is primarily commercial and multi-family, and this corridor is anticipated to experience significant growth and development in the future.

Other Parallel Routes

Oak Street could be considered a parallel circulation route, given its north-south orientation and proximity to S. Carson Street. Oak Street is currently under-utilized due to narrow pavement width, lack of formal improvements/only half-street construction in some segments, poor pavement conditions, deep valley gutters at cross-streets that make north-south travel awkward, and informal parking which infringes on the roadway width. The roadway has potential to better serve local businesses and future development in the area but needs major improvements to function as a collector type roadway.

Bicycle and Pedestrian Facilities

Bicycle lanes currently exist along Silver Sage Drive/ S. Roop Street for the study limits. Bicycle lanes also exist along S. Curry Street from Clearview Drive to Rhodes Street. Bicycle lanes on Koontz Street are available traversing S. Carson Street and connecting the parallel corridors. Sidewalks currently exist along Silver Sage Drive/ S. Roop Street from north of Clearview Drive to 5th Street. Sidewalks exist along Cochise Street/ S. Curry Street from W. Appion Way to Rhodes Street.

A 'Safe Routes to School' (SRTS) plan for the area is currently in development. SRTS is a national program to encourage bicycle and pedestrian activity along routes adjacent to schools through infrastructure improvements. In the project area, the preliminary plans recommend intersection crossing enhancements, bicycle network enhancements, walk zone connectivity enhancements and other improvements. The ***Unified Pathways Master Plan for Carson City*** is a comprehensive plan for non-automobile travel including trails, sidewalks, bicycle lanes, and other facilities. The plan outlines pathways to be installed as part of future projects or as funding becomes available. Other projects including those on S. Carson Street and Fairview Drive will have enhanced bicycle and pedestrian connections.

Transit

Jump Around Carson (JAC) provides transit service throughout Carson City. Route 3 services the study area - S. Roop Street, Silver Sage, Koontz Lane, Clearview Drive and Snyder Avenue. BlueGo is another transit service connecting Carson City to the Carson Valley.

Intersection Level of Service Analysis

Existing conditions intersection level of service analysis was performed using Synchro software, with reports based on HCM 2010 methodology. The existing peak hour factors and heavy vehicle percentages were derived from the traffic counts. The level of service results are presented in **Table 2** and the calculation sheets are provided in **Appendix A**, attached.

Table 2: Existing Conditions LOS

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay[1]	LOS	Delay[1]	LOS
1. S. Curry Street / Rhodes Street	Side-Street Stop				
Northbound Left		7.6	A	7.7	A
Southbound Left		7.8	A	8.0	A
Eastbound Approach		13.8	B	14.8	B
Westbound Approach		13.1	B	12.7	B
2.S. Curry Street / Koontz Lane	All-Way Stop				
Overall		8.1	A	8.8	A
3. Cochise Street / Clearview Drive	All-Way Stop				
Overall		8.5	A	8.8	A
4. Cochise Street / Overland Drive	Side-Street Stop				
Northbound Left		7.3	A	7.4	A
Southbound Left		7.5	A	7.5	A
Eastbound Approach		9.7	A	7.5	A
Westbound Approach		9.1	A	9.2	A
5. Cochise Street / W. Appion Way	Side-Street Stop				
Northbound Approach		8.4	A	9.1	A
Southbound Approach		9.0	A	9.2	A
Eastbound Left		7.5	A	7.4	A
Westbound Left		7.5	A	7.2	A
6. S. Roop Street / Little Lane	Signal				
Overall		12.6	B	11.5	B
7. Silver Sage Drive / Colorado Street	Signal				
Overall		12.6	B	10.6	B
8. Silver Sage Drive / Sonoma Street	All-Way Stop				
Overall		9.3	A	11.1	B
9. Silver Sage Drive / Koontz Lane	All-Way Stop				
Overall		10.8	B	16.6	C
10. Silver Sage Drive / Clearview Drive	All-Way Stop				
Overall		8.2	A	9.4	A

1. Delay is reported in seconds per vehicle for the overall intersection for signalized intersections, and for the worst approach/ movement for unsignalized intersections.

Source: Headway Transportation, 2020

Under existing conditions, the study intersections operate within the policy of LOS D or better.

Roadway Capacity

The AADT was compared to segment capacity thresholds using HCM methodologies. HCM exhibit 16-14 indicates that roadways with similar characteristics (two lanes, 30 mph) can service between approximately 11,500 - 15,400 vehicles per day for LOS D. The study corridors would likely be on the lower end of the range given the stop-controlled intersections. The highest existing bidirectional AADT in the area was less than 7,400 vehicles per day. This indicates that both corridors have more than adequate remaining capacity. The HCM exhibit is provided in **Appendix A**.

FUTURE CONDITIONS

2040 Roadway Modifications

Significant changes are planned for the study area by the design year 2040. The following projects are in the fiscally constrained transportation improvements in the ***2040 Regional Transportation Plan*** in or near the study area*:*

- Curry Street from Rhodes Street to Lake Glen Drive: Enhancements to two lane road
- Roop Street from Washington Street to Fifth Street: Widen to four lanes. This project is just north of the study limits.
- S. Carson Street corridor from Stewart Street to Freeway Interchange: Complete Streets project to reduce the number lanes each direction

Stewart Street may ultimately be extended to S. Curry Street. This concept is currently in the unconstrained 2040 RTP scenario, but at the time of this report is anticipated to be moved to the constrained RTP scenario in the 2050 RTP.

The S. Carson Street corridor preliminary design was studied in the ***Traffic Evaluation for S. Carson Street.*** The analysis included approved development and complete street modifications for S. Carson Street. A summary of the S. Carson Street modifications are as follows:

- Removal of one northbound and southbound lane from Clearview Drive to Stewart Street.
- Addition of a TWTL from Clearview Drive to Stewart Street
- Removal of one lane northbound from Stewart Street to E. 5th Street
- Conversion of the S. Carson Street/ Stewart Street intersection to a roundabout with three legs
- Implementation of a traffic signal at S. Carson Street/ Rhodes Street with future redevelopment of the vacant Armory site (located on the east side of S. Carson Street opposite Rhodes Street).

As part of the ***Cochise Multifamily Traffic Impact Study,*** the Cochise Street/ W. Appion Way intersection is expected to be converted to an all-way stop controlled intersection.

As part of the ***Carson Hill Traffic Analysis***, Koontz Lane is expected to be extended to form a 4-way intersection with Curry Street. The west approach is recommended to include a left turn lane and a shared through/right turn lane.

The ***Snyder/ Appion Alternatives Analysis*** identified a signalized crossing at S. Carson at W. Appion Way and the realignment of Snyder Avenue to W. Appion Way as the preferred alternative.

2040 Cumulative Traffic Volumes

It is expected that anticipated development and planned roadway projects will increase volumes and shift traffic patterns by the future year scenario. Also, the contemplated connection of Stewart Street from S. Curry Street to S. Carson Street could shift traffic patterns in the north end of the study area. It is not expected that a significant portion of traffic will divert from the southerly segments of S. Carson Street with the complete streets project. In the northern part of the study area, some traffic may move from S. Carson Street to Stewart Street during peak travel times. The intersections on S. Carson were analyzed with the complete streets configuration and are expected to operate acceptably in the design year with implementation of the recommendations presented in the ***Traffic Evaluation for S. Carson Street***. The 2040 Cumulative Traffic Volumes include:

- 0.5% per year background growth
- Anticipated project trips as detailed in the ***Traffic Evaluation for S. Caron Street***, which include the Cochise Multifamily project, Carson Hills Apartments and other approved developments in the study area
- Redistributed traffic associated with the contemplated Stewart Street extension to S. Curry Street.

The 2040 Cumulative volumes and the 2040 daily traffic volumes derived from the current CAMPO model are shown in **Figure 5**.

Future Level of Service

Traffic operations were tested for the 2040 scenario to identify any potential future capacity issues and determine the need for improvements. Future conditions intersection level of service analysis results are presented in **Table 3** and the calculation sheets are provided in **Appendix B**.

Table 3: Future Year 2040 Conditions LOS

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay[1]	LOS	Delay[1]	LOS
1. S. Curry Street / Rhodes Street	Side- Street Stop				
Northbound Left		7.8	A	7.9	A
Southbound Left		7.9	A	8.3	A
Eastbound Approach		16.5	C	18.1	C
Westbound Approach		15.5	C	15.2	C
2. S. Curry Street / Koontz Lane	All-Way Stop				
Overall		9.3	A	10.6	B
3. Cochise Street / Clearview Drive	All-Way Stop				
Overall		17.9	C	19.1	C
4. Cochise Street / Overland Drive	Side-Street Stop				
Northbound Left		7.5	A	7.7	A
Southbound Left		8.3	A	8.2	A
Eastbound Approach		16.2	C	18.9	C
Westbound Approach		12.6	B	15.2	C
5. Cochise Street / W. Appion Way with proposed improvements	All-Way Stop				
Overall		14.2	B	12.5	B
6. S. Roop Street / Little Lane	Signal				
Overall		11.0	B	11.7	B
7. Silver Sage Drive / Colorado Street	Signal				
Overall		12.7	B	10.9	B
8. Silver Sage Drive / Sonoma Street	All-Way Stop				
Overall		9.7	A	12.1	B
9. Silver Sage Drive / Koontz Lane	All-Way Stop				
Overall		12.0	B	22.8	C
10. Silver Sage Drive / Clearview Drive	All-Way Stop				
Overall		8.5	A	10.3	B

1. Delay is reported in seconds per vehicle for the overall intersection for signalized intersections, and for the worst approach/movement for unsignalized intersections.

Source: Headway Transportation, 2020

As shown in **Table 3**, all studied intersections operate within the LOS policy in the 2040 scenario.

The analysis results indicate that these intersections have additional capacity for additional development and increased traffic should the roadways become primary circulation routes. Furthermore, while it is not expected that a significant portion of traffic would divert from S. Carson Street, adequate capacity exists should this occur. As an additional test scenario, a 1.5 growth factor was applied to the 2040 PM peak hour traffic volumes. The overall approach LOS at the intersections remained within policy, except for the Silver Sage Drive/ Koontz Lane intersection. Therefore, it is expected that these intersections could service significantly more (50%) traffic if actual volumes exceed projections. The bidirectional AADTs for the 2040 scenario were reviewed and compared to HCM thresholds. The highest bidirectional AADT is 8,600 vehicles per day, still well below HCM thresholds capacity on similar type roadways.

Stewart Street Connection to S. Curry Street

The City is considering an extension of Stewart Street to S. Curry Street. This concept was included in the unconstrained (unfunded) portion of the 2040 RTP but may be moved to the constrained (funded) portion of the 2050 RTP update which is currently in process.

From an overall perspective, this connection would be beneficial in improving local circulation and would provide an additional linkage between S. Curry Street and the east and west sides of S. Carson Street. Detailed traffic operations analysis would be needed to identify the best lane configurations and controls for the connection and adjacent intersections. Alternative locations for a new connection between S. Curry Street and S. Carson Street would not provide the same circulation benefits unless a link on the east side of S. Carson Street was also provided. Stewart Street is the most practical location in the approximately 1-mile stretch between Rhodes Street and 10th Street to provide an east/west linkage. The other intersections with a connection to the east side are Fairview Drive, where a connection is not feasible because of the elevation difference and impacts to the Nevada State Railroad Museum, and Colorado Drive, where a connection would likely have high ROW impacts.

Future Intersection Control Evaluation

The study intersections on S. Curry Street, Cochise Street, S. Roop Street and Silver Sage Drive with either mainline stop or signal control were evaluated using a planning level graph from The *Highway Capacity Manual 2000* which shows the common intersection control type (two-way stop, all-way stop or signal) based on the major and minor streets volumes. The goal was to assess if any of the study intersections may operate more efficiently with a different type of control. One purpose was to identify any intersections that could be considered for conversion to side-street STOP control to promote uninhibited movement along the north-south corridor. This preliminary tool does not provide the *recommended* control, only the *probable* control based on the volumes. Other factors such as lane configuration and turning movements would influence the most efficient control type. The table does not provide specific guidance for roundabouts but indicates that roundabouts may be appropriate within a portion of the volume ranges. Identifying the probable control based on the graph would be the first of several steps in determining appropriate control and changing the control at an intersection. The decision to convert an intersection would be based on several factors and require an engineering study specific to each location. The HCM graph is in **Appendix C,** the results are in **Table 4.**

Table 4: Current Control versus HCM Graph Control

Intersection	Current Control	Control per HCM graph
2. S. Curry Street / Koontz Lane	All-Way Stop	Two-Way Stop
3. Cochise Street / Clearview Drive	All-Way Stop	Two-Way Stop[1]
6. S. Roop Street / Little Lane	Signal	All-Way Stop
7. Silver Sage Drive / Colorado Street	Signal	Two-Way Stop[1]
8. Silver Sage Drive / Sonoma Street	All-Way Stop	Two-Way Stop
9. Silver Sage Drive / Koontz Lane	All-Way Stop	Signal[2]
10. Silver Sage Drive / Clearview Drive	All-Way Stop	Two-Way Stop[1]

1. Near the border of two-way/ all-way stop control
2. Near the border of signal/ all-way stop control

Several intersections may have volumes that are appropriate for different control and could be considered for advanced evaluation if changing the control promoted the City's overall objectives. However, further evaluation should only be pursued if it is justified to do so. For instance, changing from all-way stop control to side-street stop control can promote uninhibited movement through the corridor. However, all-way stop control can promote traffic calming and safety and in some cases better operations. Removal of a traffic signal would not be appropriate in high pedestrian volume locations or where safety factors are a higher priority.

Silver Sage Drive is a primarily residential corridor and all-way stop can be useful in keeping speeds low, promoting traffic calming and can be safer than two-way stops. Furthermore, justification does not exist for evaluating the removal of the signal at Colorado Street or on S. Roop Street / Little Lane. The signals operate well within LOS policy with no identified issues and also provide a safe crossing for pedestrians. Modified control for the Silver Sage intersections was not evaluated.

Since S. Curry Street / Cochise are more commercial in nature, converting an all-way stop to two-way could promote mobility throughout the corridor. The modified control based on **Table 4** was analyzed for the 2040 PM peak hour conditions, as the volumes were generally higher than during the AM peak hour conditions. The results are in **Table 5**; analysis reports are in **Appendix C**.

Table 5: Modified Control LOS

Intersection	Current Control	PM Peak Hour		Potential Modified Control	PM Peak Hour with Modified Control	
		Delay[1]	LOS		Delay[1]	LOS
2. S. Curry Street / Koontz Lane	All-Way Stop			Side-Street Stop		
Northbound Left					7.7	A
Southbound Left					7.8	A
Eastbound Approach					15.9	C
Westbound Approach					16.6	C
Overall		10.6	B			
3. Cochise Street / Clearview Drive	All-Way Stop			Side-Street Stop		
Northbound Left					7.8	A
Southbound Left					9.2	A
Eastbound Approach					52.3	F
Westbound Approach					27.4	D
Overall		19.1	A			

1. Delay is reported in seconds per vehicle for the overall intersection for signalized intersections, and for the worst approach/ movement for unsignalized intersections.

As shown in **Table 5**, the LOS results are within policy for S. Curry Street / Koontz Lane with modified control. The Cochise Street / Clearview Drive operation was not improved with the modification and had LOS F on the side street. Other factors such as safety, driver expectation, number of lanes, etc. should be considered and properly documented in an engineering report prior to changing control.

Roundabout Consideration

Roundabouts were also considered for modified intersection control. Roundabouts can have advantages over stop-control or signalized intersections improving operations and safety but often come with higher construction costs and right-of-way impacts.

The future 2040 volumes at the study intersections are within the volume thresholds in which roundabouts would be expected to operate well. However, no capacity deficiencies were found to justify pursuing roundabout implementation.

North-South Circulation Routes

Providing high-quality circulation routes will foster business success. The study corridors and adjacent routes were reviewed for the purpose of business development and enhanced circulation routes. It is vital that these routes have good connections to/from S. Carson Street.

As S. Curry Street/ Cochise Street has adequate capacity and is primarily commercial; promoting this route as a circulation route would encourage economic development. Several connections to/from S. Carson

Street exist or are planned. On the north end, connections to S. Carson Street currently exist at Rhodes Street, and this intersection is likely to be signalized in the future. An additional connection is being considered to/from Stewart Street. On the south end, connections to/from S. Carson Street would be available at Koontz Lane, Clearview Drive, Overland Street and W. Appion Way. Any of these intersections with S. Curry Street / Cochise Street would have enough capacity to circulate traffic. On the S. Carson Street end, another signalized crossing of S. Carson Street is recommended as identified in the ***Snyder/ Appion Alternatives Analysis***. The preferred alternative from this study is a crossing at W. Appion Way with a realigned Snyder. On both the north and south end, having multiple options will allow traffic to naturally distribute, preventing one connection from overloading.

The S. Roop Street/ Silver Sage Drive corridor is primarily residential between Snyder Avenue and Fairview Drive; therefore, promoting this corridor as a primary circulation route would increase traffic through a residential area. However, there is adequate capacity should traffic divert. Also, the same north/south connections as described for S. Curry Street would be available, as well as interim connections at Fairview Drive, Colorado Street and Sonoma Street, all with adequate capacity.

Oak Street could also provide connectivity and promote circulation. The roadway is parallel to S. Carson Street, extends from Roland Street to Clearview Drive and provides access to several businesses. The roadway needs improvements before it can serve as a primary route or promote development.

Roland Street could serve this purpose as well as it connects Oak Street to Snyder Avenue. Roland Street could potentially be connected and provide access to the frontage road and the parcels that may have restricted access if/when the S. Carson Street/ W. Appion Way/ realigned Snyder Avenue signal is implemented. The roadway could promote access and circulation in the future but needs improvements to function in this capacity.

RECOMMENDATIONS

North-South Circulation Improvements

The S. Roop Street/ Silver Sage Drive corridor is primarily residential between Snyder Avenue and Fairview Drive, and it is not recommended to purposefully encourage additional traffic on this corridor. However, adequate capacity exists on the roadway and at the study intersections to accommodate a shift in traffic if that occurs.

It is recommended that north-south circulation be encouraged on S. Curry Street. The roadway and study intersections have adequate surplus capacity and there are several good connections to/ from S. Carson Street (Appion, Clearview, Rhodes, and potentially a future Stewart Street extension). Creating more options for north-south connectivity parallel to S. Carson Street will improve flow throughout the southwest area of the city.

Oak Street is parallel to and adjacent to S. Carson Street and therefore could serve as a circulation route if the pavement width, valley gutters, edge conditions, and striping were improved between Roland Street and Clearview Drive. Improvements to Oak Street are not the highest priority but could encourage better use of an existing asset and foster future development/redevelopment in the area.

There are access challenges to the parcels on the east side of S. Carson Street south of the proposed Snyder realignment. Carson City should consider coordination with the property owners at the time of development to identify alternative network connections to Oak Street. For example, connection of the parcel on the frontage road cul-de-sac to Oak Street could enable removal of a driveway/road connection to the Snyder realignment and ultimately benefit the property as well. Coordination with NDOT and adjacent property owner(s) would be necessary.

Roadways

No roadway capacity deficiencies were identified for the future conditions; therefore, there are no recommendations for expansions. The studied roadways are expected to have adequate capacity with the existing number of lanes. Traffic impact studies for future development projects in this study area should evaluate the key intersections and development proposals continue the goals of north-south connectivity. It is also recommended that sections of the roadways with worn pavement or striping be repaired consistent with the City's pavement management program and be accelerated on Cochise and Curry Streets in particular if possible.

Intersections

Operational issues were not identified at the studied intersections; however, if a primary goal of the City is to increase mobility/decrease the number of stops on these routes, the S. Curry Street/ Koontz Lane intersection could be considered for conversion from all-way stop to a side-street stop control. An engineering study would be needed prior to implementing control changes.

Pedestrian and Bicycle Improvements

Recommendations regarding bicycle and pedestrian facilities will be provided in the ***Carson City Safe Routes to School Master Plan***, currently in draft form and the ***Unified Pathways Master Plan***. Generally speaking, sidewalks should be added along all street frontages concurrent with new development.

SUMMARY OF IMPROVEMENTS

The following improvements (listed in general order of priority, and shown on **Figure 6**) should be considered for inclusion in the next Regional Transportation Plan (RTP) or with other City programs:

- Signalization of the W. Appion Way/S. Carson Street intersection and realignment of Snyder Avenue to W. Appion Way as described in the ***Snyder/Appion Alternatives Analysis*** report
- Extension of Stewart Street to S. Curry Street as a two-lane roadway with appropriate turn lanes, specifics to be determined by future analysis
- Pavement and striping maintenance on S. Curry Street and Cochise Street
- Revise the posted speed limit on S. Curry Street and Cochise Street to be a consistent 30 mph from the Stewart Street extension to Roland Street, subject to the recommendations of a speed limit study
- Consider intersection modifications/change of stop controls at S. Curry Street/Koontz Lane

- Signalization of the Rhodes Street/S. Carson Street intersection (potentially privately funded by future development(s) if/when warrants are met)
- Oak Street Improvements – Roland Street to Clearview Drive
- Work collaboratively with property owners to improve access from properties south of the Snyder realignment to Oak Street

HEADWAY TRANSPORTATION

NO SCALE

Figure 1

S. Carson Street Parallel Route Assessment
Silver Sage Drive / S. Roop Street
S. Curry Street / Cochise Street

Study Area & Segment Lane Configurations

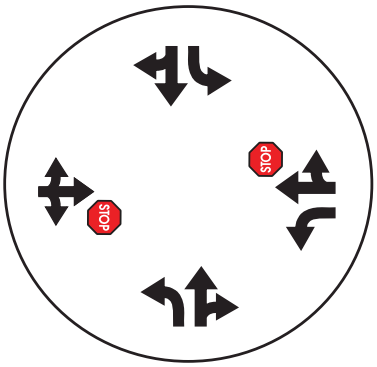
HEADWAY TRANSPORTATION

NO SCALE

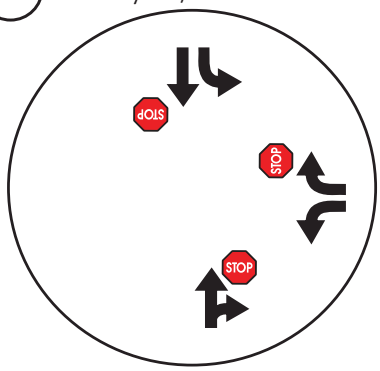
Figure 2

S. Carson Street Parallel Route Assessment
Silver Sage Drive / S. Roop Street
S. Curry Street / Cochise Street
Existing Bicycle / Pedestrian Facilities

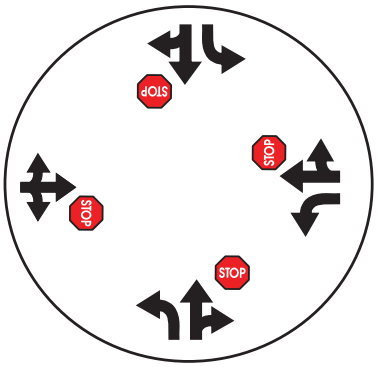
1 S. Curry St / Rhodes St



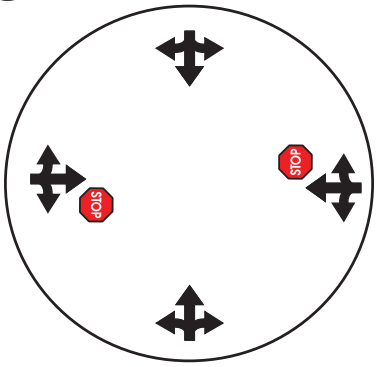
2 S. Curry St / Koontz Ln



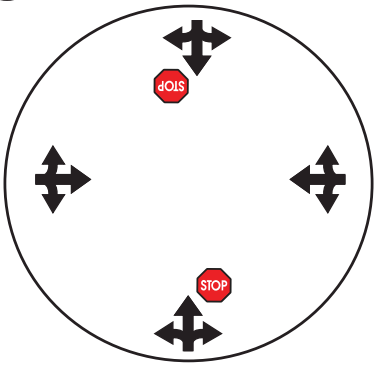
3 Cochise St / Clearview Dr

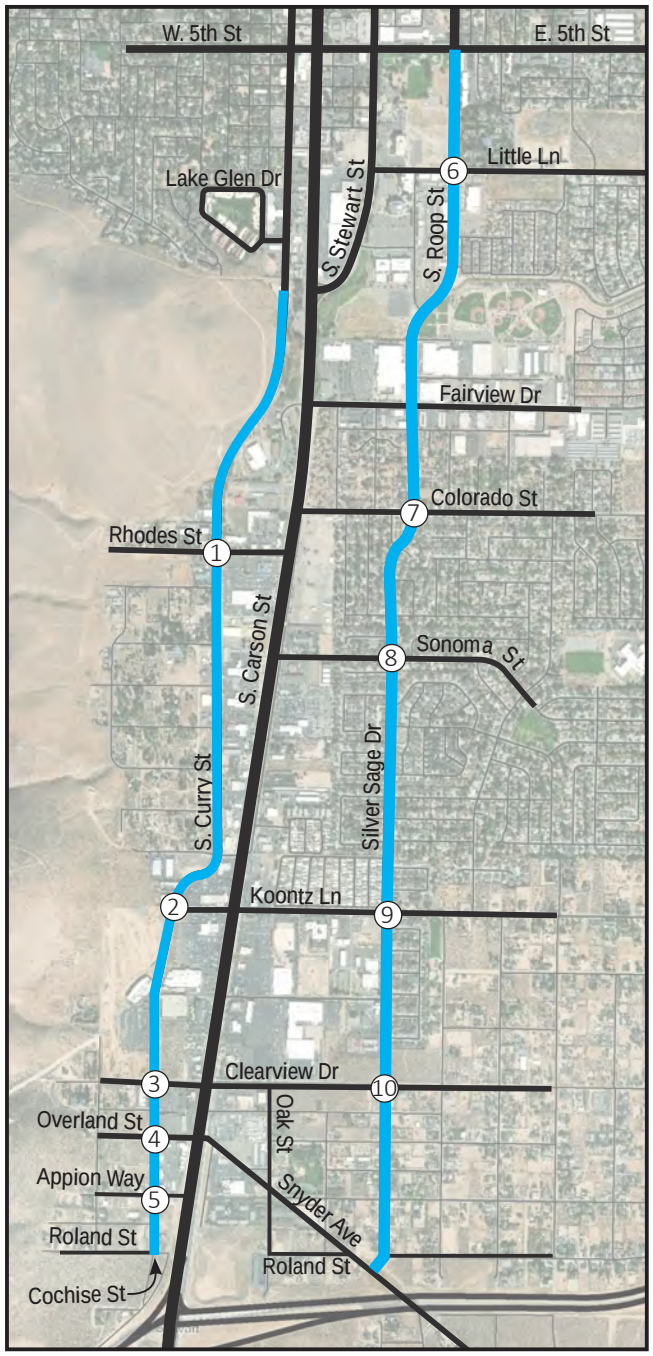


4 Cochise St / Overland St

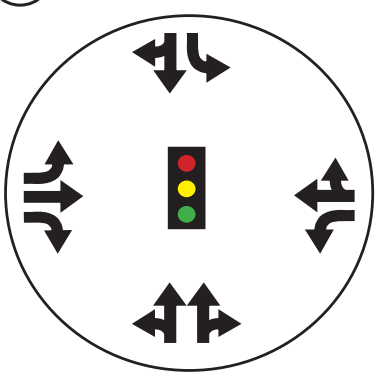


5 Cochise St / Appion Way

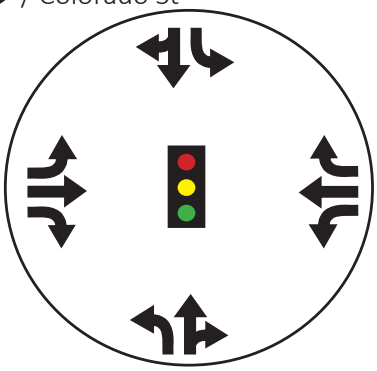




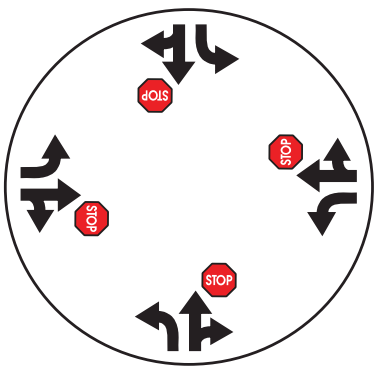
6 S. Roop St / Little Ln



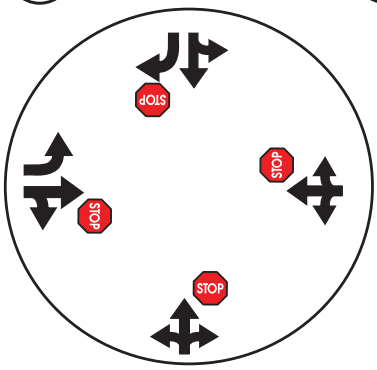
7 S. Roop Street (Silver Sage Dr) / Colorado St



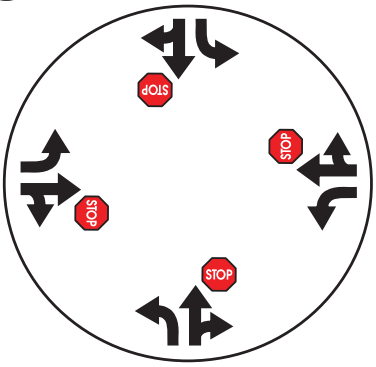
8 Silver Sage Dr / Sonoma St



10 Silver Sage Dr / Clearview Dr



9 Silver Sage Dr / Koontz Ln



HEADWAY TRANSPORTATION

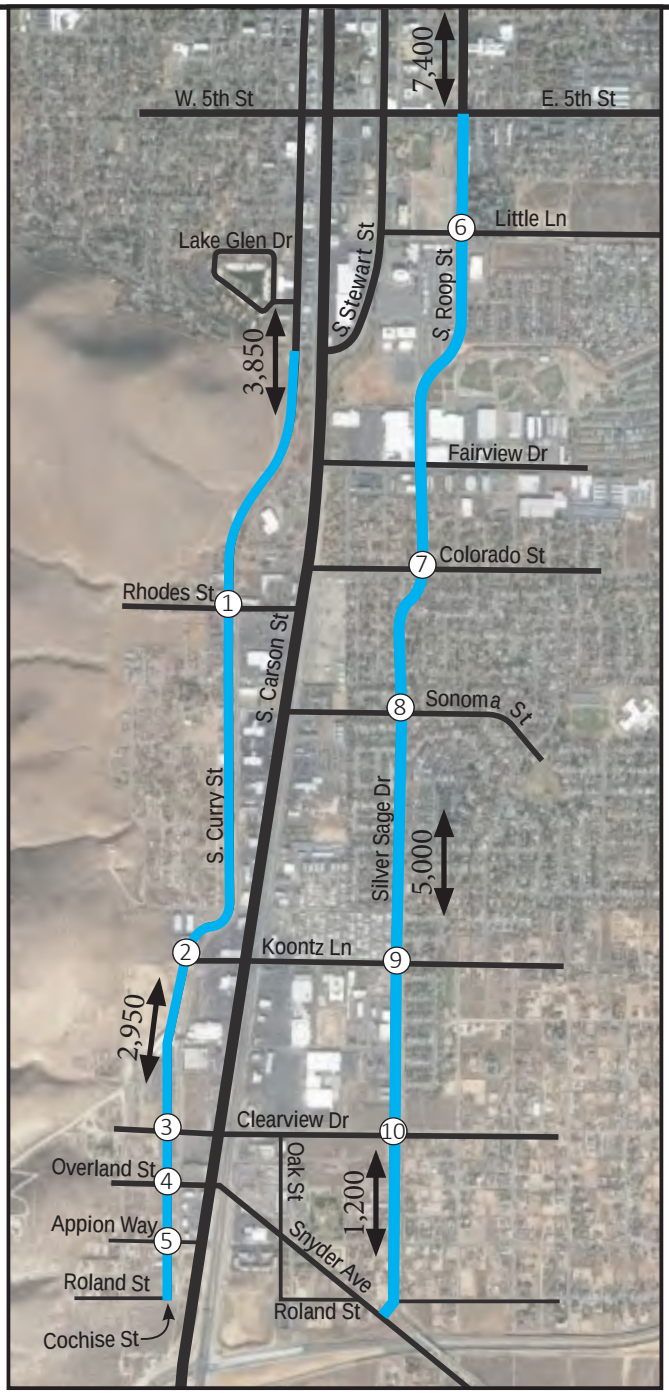
NO SCALE

1 - Study Intersection

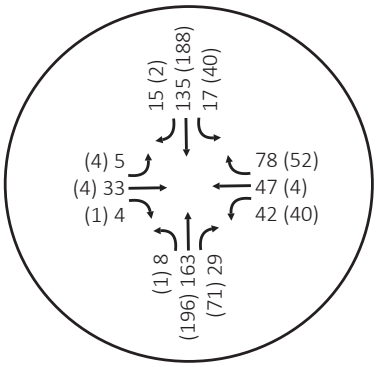
Figure 3

S. Carson Street Parallel Route Assessment
Silver Sage Drive / S. Roop Street
S. Curry Street / Cochise Street

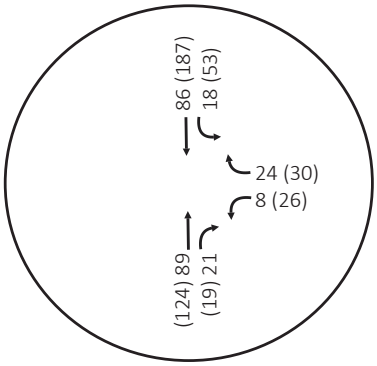
Existing Lane Configurations & Controls



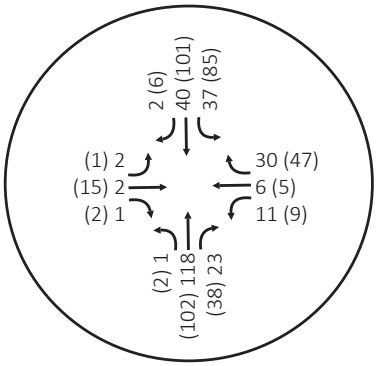
1 S. Curry St / Rhodes St



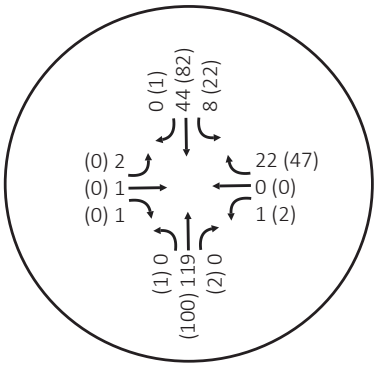
2 S. Curry St / Koontz Ln



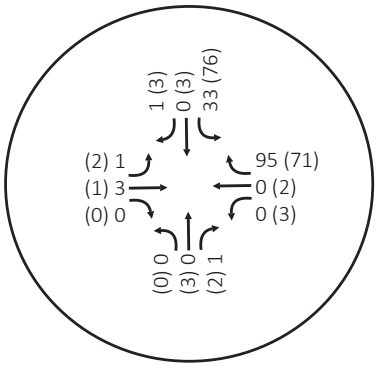
3 Cochise St / Clearview Dr



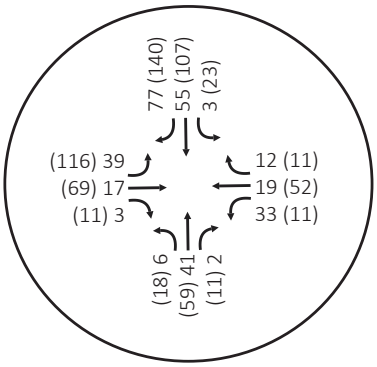
4 Cochise St / Overland St



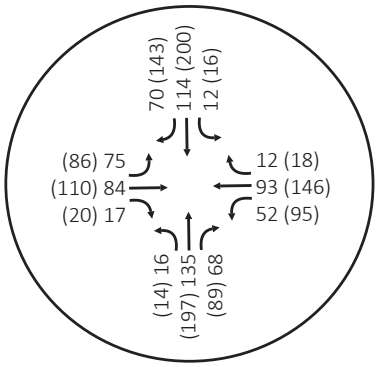
5 Cochise St / Appion Way



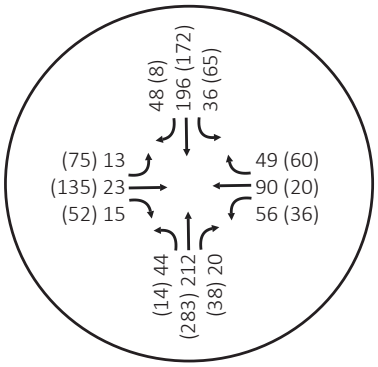
10 Silver Sage Dr / Clearview Dr



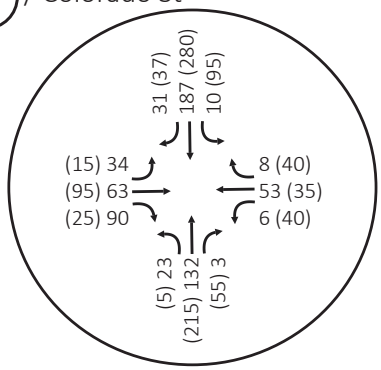
9 Silver Sage Dr / Koontz Ln



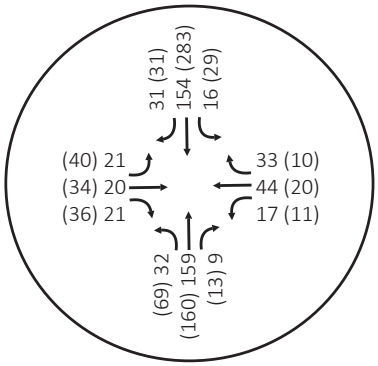
6 S. Roop St / Little Ln



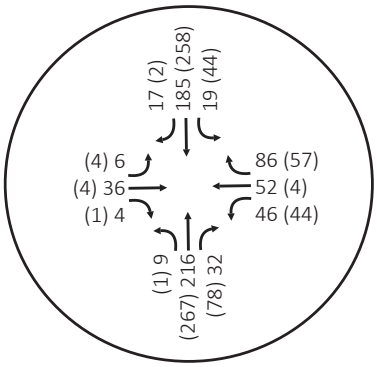
7 S. Roop Street (Silver Sage Dr) / Colorado St



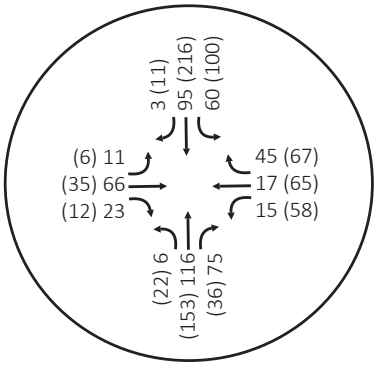
8 Silver Sage Dr / Sonoma St



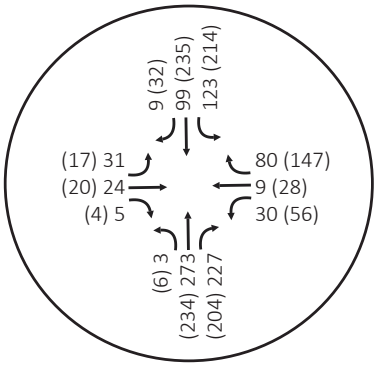
1 S. Curry St / Rhodes St



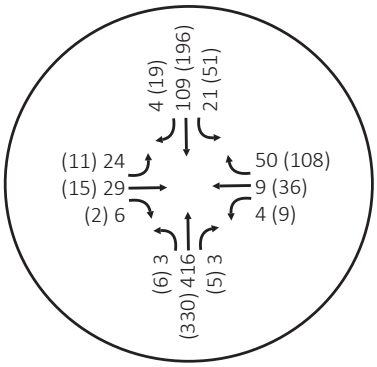
2 S. Curry St / Koontz Ln



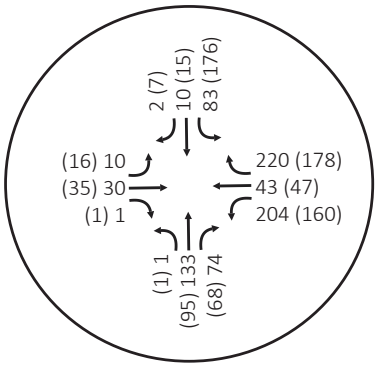
3 Cochise St / Clearview Dr



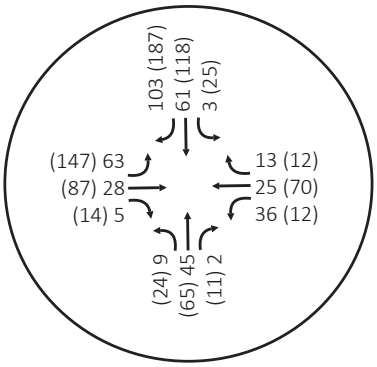
4 Cochise St / Overland St



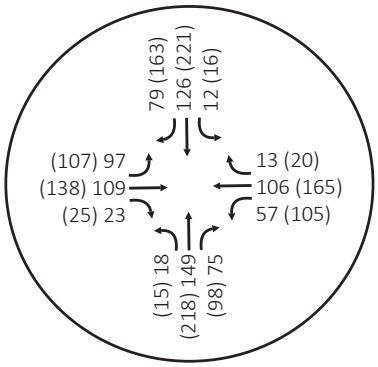
5 Cochise St / Appion Way



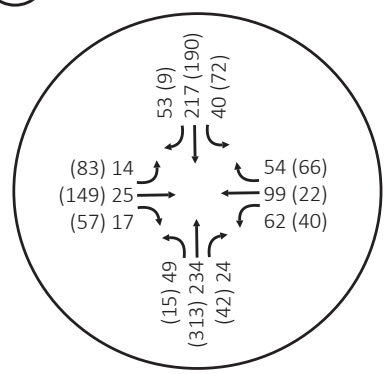
10 Silver Sage Dr / Clearview Dr



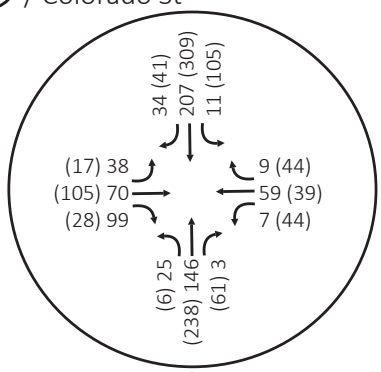
9 Silver Sage Dr / Koontz Ln



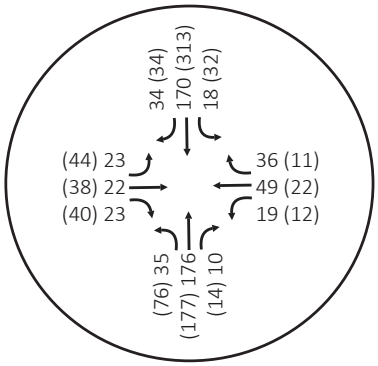
6 S. Roop St / Little Ln



7 S. Roop Street (Silver Sage Dr) / Colorado St



8 Silver Sage Dr / Sonoma St



1 - Study Intersection

AM (PM) - Peak Hour Traffic Volumes

1,000 - Annual Daily Traffic 2040 (CAMPO TDM, 2019)

NO SCALE

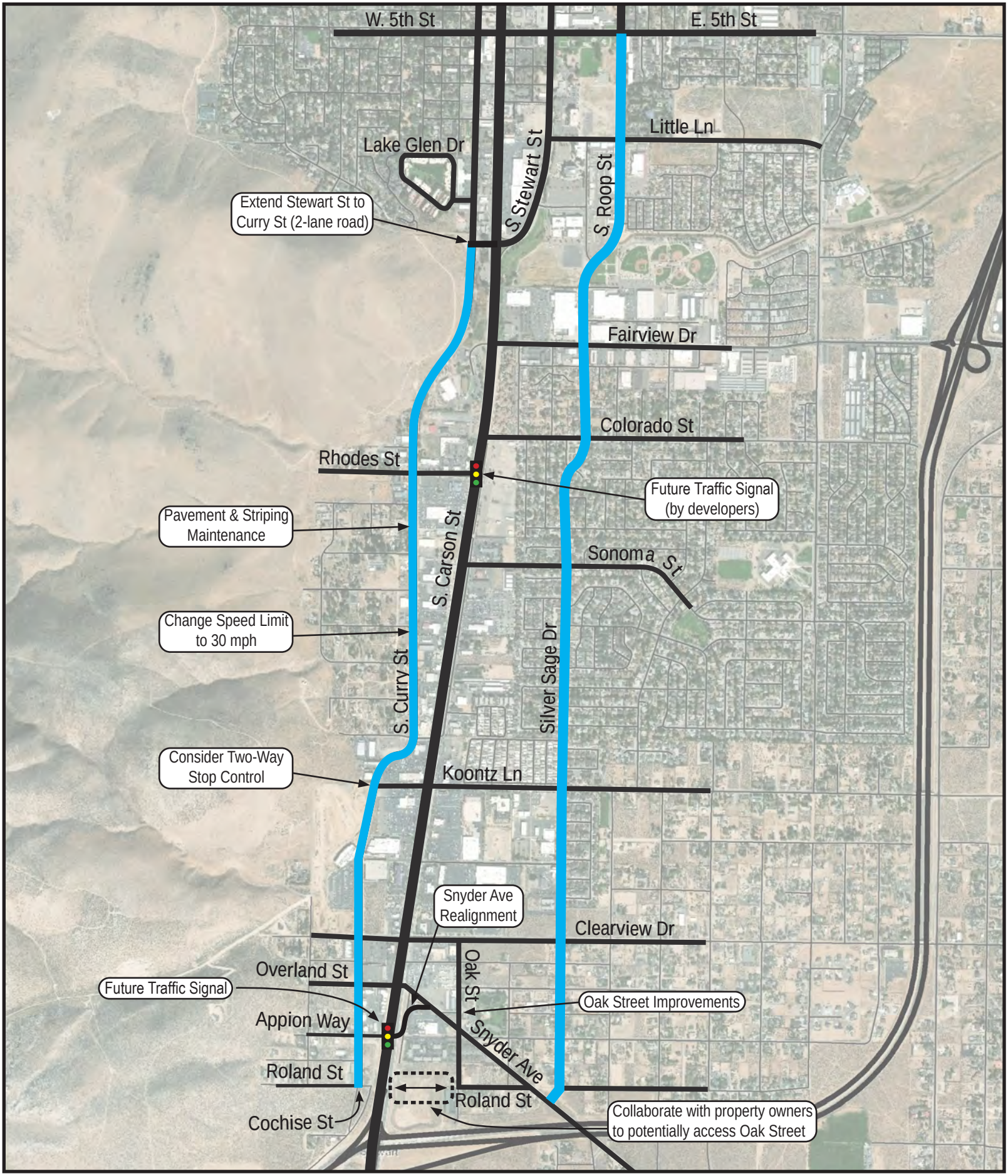
Figure 5

S. Carson Street Parallel Route Assessment

Silver Sage Drive / S. Roop Street

S. Curry Street / Cochise Street

2040 Traffic Volumes



HEADWAY TRANSPORTATION

NO SCALE

Figure 6

S. Carson Street Parallel Route Assessment
Silver Sage Drive / S. Roop Street
S. Curry Street / Cochise Street
Recommended Improvements

Appendix A

Existing LOS Calculations

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	33	4	42	47	78	8	163	29	17	135	15
Future Vol, veh/h	5	33	4	42	47	78	8	163	29	17	135	15
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	-	-	-	150	-	-	150	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	43	5	55	61	101	10	212	38	22	175	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	561	499	185	504	489	231	194	0	0	250	0	0
Stage 1	229	229	-	251	251	-	-	-	-	-	-	-
Stage 2	332	270	-	253	238	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	441	476	862	482	482	813	1391	-	-	1327	-	-
Stage 1	778	718	-	758	703	-	-	-	-	-	-	-
Stage 2	686	690	-	756	712	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	341	465	862	437	470	813	1391	-	-	1327	-	-
Mov Cap-2 Maneuver	341	465	-	437	470	-	-	-	-	-	-	-
Stage 1	773	706	-	753	698	-	-	-	-	-	-	-
Stage 2	544	685	-	694	700	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.8	13.1	0.3	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1391	-	-	465	437	638	1327	-	-
HCM Lane V/C Ratio	0.007	-	-	0.117	0.125	0.254	0.017	-	-
HCM Control Delay (s)	7.6	-	-	13.8	14.4	12.6	7.8	0	-
HCM Lane LOS	A	-	-	B	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.4	1	0.1	-	-

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	24	89	21	18	86
Future Vol, veh/h	8	24	89	21	18	86
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	27	101	24	20	98
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	7.6	8.2	8.1
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	81%	0%	0%	0%	100%
Vol Right, %	19%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	110	8	24	18	86
LT Vol	0	8	0	18	0
Through Vol	89	0	0	0	86
RT Vol	21	0	24	0	0
Lane Flow Rate	125	9	27	20	98
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.152	0.014	0.033	0.029	0.126
Departure Headway (Hd)	4.368	5.611	4.406	5.159	4.659
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	813	642	817	691	765
Service Time	2.438	3.311	2.106	2.914	2.412
HCM Lane V/C Ratio	0.154	0.014	0.033	0.029	0.128
HCM Control Delay	8.2	8.4	7.3	8.1	8.1
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.5	0	0.1	0.1	0.4

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	2	1	11	6	30	1	118	23	37	40	2
Future Vol, veh/h	2	2	1	11	6	30	1	118	23	37	40	2
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	2	2	1	13	7	37	1	144	28	45	49	2
Number of Lanes	0	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	8.3	7.9	8.8	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	40%	100%	0%	100%	0%
Vol Thru, %	0%	84%	40%	0%	17%	0%	95%
Vol Right, %	0%	16%	20%	0%	83%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1	141	5	11	36	37	42
LT Vol	1	0	2	11	0	37	0
Through Vol	0	118	2	0	6	0	40
RT Vol	0	23	1	0	30	0	2
Lane Flow Rate	1	172	6	13	44	45	51
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.002	0.221	0.009	0.021	0.057	0.068	0.069
Departure Headway (Hd)	5.244	4.629	5.282	5.754	4.666	5.386	4.851
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	674	765	681	625	771	669	743
Service Time	3.038	2.422	3.29	3.459	2.372	3.086	2.551
HCM Lane V/C Ratio	0.001	0.225	0.009	0.021	0.057	0.067	0.069
HCM Control Delay	8	8.8	8.3	8.6	7.7	8.5	7.9
HCM Lane LOS	A	A	A	A	A	A	A
HCM 95th-tile Q	0	0.8	0	0.1	0.2	0.2	0.2

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	1	1	1	0	22	0	119	0	8	44	0
Future Vol, veh/h	2	1	1	1	0	22	0	119	0	8	44	0
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	-	-	-	-	-	-	-	-	-	-	-	-
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, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	2	1	1	1	0	24	0	129	0	9	48	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	207	195	48	196	195	129	48	0	0	129	0	0
Stage 1	66	66	-	129	129	-	-	-	-	-	-	-
Stage 2	141	129	-	67	66	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	748	699	1018	761	699	918	1553	-	-	1451	-	-
Stage 1	942	838	-	872	787	-	-	-	-	-	-	-
Stage 2	860	787	-	941	838	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	725	695	1018	756	695	918	1553	-	-	1451	-	-
Mov Cap-2 Maneuver	725	695	-	756	695	-	-	-	-	-	-	-
Stage 1	942	833	-	872	787	-	-	-	-	-	-	-
Stage 2	838	787	-	933	833	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	9.1	0	1.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1553	-	-	772	910	1451	-	-
HCM Lane V/C Ratio	-	-	-	0.006	0.027	0.006	-	-
HCM Control Delay (s)	0	-	-	9.7	9.1	7.5	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	3	0	0	0	95	0	0	1	33	0	1
Future Vol, veh/h	1	3	0	0	0	95	0	0	1	33	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	5	5	5	5	5	5	5	5	5	5	5	5
Mvmt Flow	1	3	0	0	0	104	0	0	1	36	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	104	0	0	3	0	0	58	109	3	58	57	52
Stage 1	-	-	-	-	-	-	5	5	-	52	52	-
Stage 2	-	-	-	-	-	-	53	104	-	6	5	-
Critical Hdwy	4.15	-	-	4.15	-	-	7.15	6.55	6.25	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.15	5.55	-
Follow-up Hdwy	2.245	-	-	2.245	-	-	3.545	4.045	3.345	3.545	4.045	3.345
Pot Cap-1 Maneuver	1469	-	-	1600	-	-	931	775	1072	931	828	1007
Stage 1	-	-	-	-	-	-	1009	886	-	953	846	-
Stage 2	-	-	-	-	-	-	952	803	-	1008	886	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1469	-	-	1600	-	-	929	774	1072	929	827	1007
Mov Cap-2 Maneuver	-	-	-	-	-	-	929	774	-	929	827	-
Stage 1	-	-	-	-	-	-	1008	885	-	952	846	-
Stage 2	-	-	-	-	-	-	951	803	-	1006	885	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0	8.4	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1072	1469	-	-	1600	-	-	931
HCM Lane V/C Ratio	0.001	0.001	-	-	-	-	-	0.04
HCM Control Delay (s)	8.4	7.5	0	-	0	-	-	9
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	23	15	56	90	49	44	212	20	36	196	48
Future Volume (veh/h)	13	23	15	56	90	49	44	212	20	36	196	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	29	19	70	112	61	55	265	25	45	245	60
Adj No. of Lanes	1	1	1	1	1	0	0	2	0	1	1	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	147	248	211	168	164	89	296	1354	129	653	769	188
Arrive On Green	0.08	0.13	0.13	0.09	0.14	0.14	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1810	1900	1615	1810	1158	631	396	2599	247	1106	1475	361
Grp Volume(v), veh/h	16	29	19	70	0	173	175	0	170	45	0	305
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1789	1557	0	1685	1106	0	1836
Q Serve(g_s), s	0.4	0.7	0.5	1.9	0.0	4.9	0.1	0.0	2.8	1.2	0.0	5.0
Cycle Q Clear(g_c), s	0.4	0.7	0.5	1.9	0.0	4.9	5.1	0.0	2.8	4.0	0.0	5.0
Prop In Lane	1.00		1.00	1.00		0.35	0.32		0.15	1.00		0.20
Lane Grp Cap(c), veh/h	147	248	211	168	0	254	901	0	878	653	0	957
V/C Ratio(X)	0.11	0.12	0.09	0.42	0.00	0.68	0.19	0.00	0.19	0.07	0.00	0.32
Avail Cap(c_a), veh/h	634	702	597	669	0	695	901	0	878	653	0	957
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.5	20.3	20.2	22.6	0.0	21.5	6.7	0.0	6.7	7.8	0.0	7.3
Incr Delay (d2), s/veh	0.3	0.2	0.2	1.7	0.0	3.2	0.5	0.0	0.5	0.2	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.4	0.3	1.0	0.0	2.6	1.4	0.0	1.4	0.4	0.0	2.8
LnGrp Delay(d),s/veh	22.8	20.5	20.4	24.3	0.0	24.7	7.2	0.0	7.2	8.0	0.0	8.1
LnGrp LOS	C	C	C	C		C	A		A	A		A
Approach Vol, veh/h		64			243			345			350	
Approach Delay, s/veh		21.0			24.6			7.2			8.1	
Approach LOS		C			C			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		32.0	9.4	11.4		32.0	8.8	12.0
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		27.5	19.5	19.5		27.5	18.5	20.5
Max Q Clear Time (g_c+I1), s		7.1	3.9	2.7		7.0	2.4	6.9
Green Ext Time (p_c), s		2.0	0.1	0.1		2.0	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	63	90	6	53	8	23	132	3	10	187	31
Future Volume (veh/h)	34	63	90	6	53	8	23	132	3	10	187	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	36	66	95	6	56	8	24	139	3	11	197	33
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	226	194	165	218	166	24	849	1183	26	928	991	166
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.03	0.64	0.64	0.01	0.62	0.62
Sat Flow, veh/h	1359	1900	1615	1245	1627	232	1810	1853	40	1810	1587	266
Grp Volume(v), veh/h	36	66	95	6	0	64	24	0	142	11	0	230
Grp Sat Flow(s),veh/h/ln	1359	1900	1615	1245	0	1859	1810	0	1893	1810	0	1853
Q Serve(g_s), s	1.4	1.8	3.1	0.2	0.0	1.8	0.3	0.0	1.6	0.1	0.0	2.9
Cycle Q Clear(g_c), s	3.2	1.8	3.1	2.0	0.0	1.8	0.3	0.0	1.6	0.1	0.0	2.9
Prop In Lane	1.00		1.00	1.00		0.13	1.00		0.02	1.00		0.14
Lane Grp Cap(c), veh/h	226	194	165	218	0	190	849	0	1208	928	0	1157
V/C Ratio(X)	0.16	0.34	0.58	0.03	0.00	0.34	0.03	0.00	0.12	0.01	0.00	0.20
Avail Cap(c_a), veh/h	532	622	529	498	0	608	963	0	1208	1067	0	1157
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.4	23.0	23.6	23.9	0.0	23.0	3.4	0.0	3.9	3.6	0.0	4.4
Incr Delay (d2), s/veh	0.3	1.0	3.2	0.1	0.0	1.0	0.0	0.0	0.2	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.0	1.5	0.1	0.0	1.0	0.1	0.0	0.9	0.1	0.0	1.6
LnGrp Delay(d),s/veh	24.8	24.0	26.7	24.0	0.0	24.0	3.5	0.0	4.1	3.6	0.0	4.8
LnGrp LOS	C	C	C	C		C	A		A	A		A
Approach Vol, veh/h		197			70			166			241	
Approach Delay, s/veh		25.4			24.0			4.0			4.8	
Approach LOS		C			C			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	39.6		10.1	6.0	38.9		10.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	18.5		18.0	5.0	18.5		18.0
Max Q Clear Time (g_c+I1), s	2.1	3.6		5.2	2.3	4.9		4.0
Green Ext Time (p_c), s	0.0	0.6		0.6	0.0	1.0		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	20	21	17	44	33	32	159	9	16	154	31
Future Vol, veh/h	21	20	21	17	44	33	32	159	9	16	154	31
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	22	21	22	18	46	35	34	167	9	17	162	33
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.7	8.9	9.5	9.6
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	95%	0%	49%	0%	57%	0%	83%
Vol Right, %	0%	5%	0%	51%	0%	43%	0%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	32	168	21	41	17	77	16	185
LT Vol	32	0	21	0	17	0	16	0
Through Vol	0	159	0	20	0	44	0	154
RT Vol	0	9	0	21	0	33	0	31
Lane Flow Rate	34	177	22	43	18	81	17	195
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.053	0.25	0.038	0.064	0.03	0.12	0.026	0.272
Departure Headway (Hd)	5.639	5.099	6.171	5.305	6.127	5.32	5.645	5.025
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	634	702	578	672	583	671	633	713
Service Time	3.386	2.845	3.929	3.062	3.882	3.075	3.391	2.77
HCM Lane V/C Ratio	0.054	0.252	0.038	0.064	0.031	0.121	0.027	0.273
HCM Control Delay	8.7	9.6	9.2	8.4	9.1	8.8	8.5	9.7
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.2	1	0.1	0.2	0.1	0.4	0.1	1.1

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	84	17	52	93	12	16	135	68	12	114	70
Future Vol, veh/h	75	84	17	52	93	12	16	135	68	12	114	70
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	84	94	19	58	104	13	18	152	76	13	128	79
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10.3	10.3	11.4	11.1
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	67%	0%	83%	0%	89%	0%	62%
Vol Right, %	0%	33%	0%	17%	0%	11%	0%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	203	75	101	52	105	12	184
LT Vol	16	0	75	0	52	0	12	0
Through Vol	0	135	0	84	0	93	0	114
RT Vol	0	68	0	17	0	12	0	70
Lane Flow Rate	18	228	84	113	58	118	13	207
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.032	0.361	0.155	0.189	0.108	0.199	0.024	0.327
Departure Headway (Hd)	6.439	5.696	6.615	5.989	6.651	6.063	6.477	5.701
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	556	632	542	598	539	591	552	631
Service Time	4.179	3.435	4.357	3.731	4.394	3.806	4.219	3.443
HCM Lane V/C Ratio	0.032	0.361	0.155	0.189	0.108	0.2	0.024	0.328
HCM Control Delay	9.4	11.6	10.6	10.1	10.2	10.3	9.4	11.2
HCM Lane LOS	A	B	B	B	B	B	A	B
HCM 95th-tile Q	0.1	1.6	0.5	0.7	0.4	0.7	0.1	1.4

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	17	3	33	19	12	6	41	2	3	55	77
Future Vol, veh/h	39	17	3	33	19	12	6	41	2	3	55	77
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	44	19	3	37	21	13	7	46	2	3	62	87
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	8.4	8.7	8.5	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	12%	100%	0%	52%	5%	0%
Vol Thru, %	84%	0%	85%	30%	95%	0%
Vol Right, %	4%	0%	15%	19%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	49	39	20	64	58	77
LT Vol	6	39	0	33	3	0
Through Vol	41	0	17	19	55	0
RT Vol	2	0	3	12	0	77
Lane Flow Rate	55	44	22	72	65	87
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.077	0.068	0.031	0.101	0.09	0.101
Departure Headway (Hd)	5.032	5.558	4.95	5.062	4.945	4.217
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	714	646	725	710	727	852
Service Time	3.049	3.277	2.669	3.081	2.658	1.93
HCM Lane V/C Ratio	0.077	0.068	0.03	0.101	0.089	0.102
HCM Control Delay	8.5	8.7	7.8	8.7	8.1	7.4
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.1	0.3	0.3	0.3

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	4	1	40	4	52	1	196	71	40	188	2
Future Vol, veh/h	4	4	1	40	4	52	1	196	71	40	188	2
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	-	-	-	150	-	-	150	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	5	1	49	5	63	1	239	87	49	229	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	647	656	230	616	614	283	231	0	0	326	0	0
Stage 1	328	328	-	285	285	-	-	-	-	-	-	-
Stage 2	319	328	-	331	329	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	387	388	814	406	410	761	1349	-	-	1245	-	-
Stage 1	689	651	-	727	679	-	-	-	-	-	-	-
Stage 2	697	651	-	687	650	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	341	372	814	389	394	761	1349	-	-	1245	-	-
Mov Cap-2 Maneuver	341	372	-	389	394	-	-	-	-	-	-	-
Stage 1	688	626	-	726	678	-	-	-	-	-	-	-
Stage 2	634	650	-	654	625	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.8	12.7	0	1.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1349	-	-	380	389	714	1245	-	-
HCM Lane V/C Ratio	0.001	-	-	0.029	0.125	0.096	0.039	-	-
HCM Control Delay (s)	7.7	-	-	14.8	15.6	10.6	8	0	-
HCM Lane LOS	A	-	-	B	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.3	0.1	-	-

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	30	124	19	53	187
Future Vol, veh/h	26	30	124	19	53	187
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	31	129	20	55	195
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	8.3	8.8	9
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	87%	0%	0%	0%	100%
Vol Right, %	13%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	143	26	30	53	187
LT Vol	0	26	0	53	0
Through Vol	124	0	0	0	187
RT Vol	19	0	30	0	0
Lane Flow Rate	149	27	31	55	195
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.194	0.045	0.041	0.082	0.261
Departure Headway (Hd)	4.682	5.986	4.779	5.318	4.817
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	769	599	750	678	750
Service Time	2.697	3.71	2.502	3.018	2.517
HCM Lane V/C Ratio	0.194	0.045	0.041	0.081	0.26
HCM Control Delay	8.8	9	7.7	8.5	9.2
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.7	0.1	0.1	0.3	1

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	15	2	9	5	47	2	102	38	85	101	6
Future Vol, veh/h	1	15	2	9	5	47	2	102	38	85	101	6
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	1	19	2	11	6	58	2	126	47	105	125	7
Number of Lanes	0	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	8.8	8.2	9	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	6%	100%	0%	100%	0%
Vol Thru, %	0%	73%	83%	0%	10%	0%	94%
Vol Right, %	0%	27%	11%	0%	90%	0%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	140	18	9	52	85	107
LT Vol	2	0	1	9	0	85	0
Through Vol	0	102	15	0	5	0	101
RT Vol	0	38	2	0	47	0	6
Lane Flow Rate	2	173	22	11	64	105	132
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.004	0.232	0.034	0.019	0.088	0.159	0.18
Departure Headway (Hd)	5.525	4.833	5.587	6.075	4.936	5.45	4.909
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	649	743	641	590	726	659	732
Service Time	3.251	2.558	3.623	3.806	2.666	3.174	2.632
HCM Lane V/C Ratio	0.003	0.233	0.034	0.019	0.088	0.159	0.18
HCM Control Delay	8.3	9	8.8	8.9	8.1	9.2	8.7
HCM Lane LOS	A	A	A	A	A	A	A
HCM 95th-tile Q	0	0.9	0.1	0.1	0.3	0.6	0.7

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	2	0	47	1	100	2	22	82	1
Future Vol, veh/h	0	0	0	2	0	47	1	100	2	22	82	1
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	2	0	56	1	119	2	26	98	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	301	274	99	273	273	120	99	0	0	121	0	0
Stage 1	151	151	-	122	122	-	-	-	-	-	-	-
Stage 2	150	123	-	151	151	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	649	631	954	677	632	929	1488	-	-	1460	-	-
Stage 1	849	770	-	880	793	-	-	-	-	-	-	-
Stage 2	850	792	-	849	770	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	600	618	954	667	619	929	1488	-	-	1460	-	-
Mov Cap-2 Maneuver	600	618	-	667	619	-	-	-	-	-	-	-
Stage 1	848	755	-	879	792	-	-	-	-	-	-	-
Stage 2	798	791	-	833	755	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.2	0.1	1.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1488	-	-	-	914	1460	-	-
HCM Lane V/C Ratio	0.001	-	-	-	0.064	0.018	-	-
HCM Control Delay (s)	7.4	0	-	0	9.2	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	2	1	0	3	2	71	0	3	2	76	3	3
Future Vol, veh/h	2	1	0	3	2	71	0	3	2	76	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	2	1	0	3	2	77	0	3	2	83	3	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	79	0	0	1	0	0	55	90	1	55	52	41
Stage 1	-	-	-	-	-	-	5	5	-	47	47	-
Stage 2	-	-	-	-	-	-	50	85	-	8	5	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1526	-	-	1628	-	-	945	802	1087	945	841	1033
Stage 1	-	-	-	-	-	-	1020	894	-	969	858	-
Stage 2	-	-	-	-	-	-	966	826	-	1016	894	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1526	-	-	1628	-	-	937	800	1087	938	838	1033
Mov Cap-2 Maneuver	-	-	-	-	-	-	937	800	-	938	838	-
Stage 1	-	-	-	-	-	-	1019	893	-	968	856	-
Stage 2	-	-	-	-	-	-	957	824	-	1009	893	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.9	0.3	9.1	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	894	1526	-	-	1628	-	-	937
HCM Lane V/C Ratio	0.006	0.001	-	-	0.002	-	-	0.095
HCM Control Delay (s)	9.1	7.4	0	-	7.2	0	-	9.2
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	135	52	36	20	60	14	283	38	65	172	8
Future Volume (veh/h)	75	135	52	36	20	60	14	283	38	65	172	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	81	145	56	39	22	65	15	304	41	70	185	9
Adj No. of Lanes	1	1	1	1	1	0	0	2	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	135	293	249	80	52	155	120	1412	184	600	823	40
Arrive On Green	0.07	0.15	0.15	0.04	0.12	0.12	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	1810	1900	1615	1810	424	1254	46	3083	402	1052	1797	87
Grp Volume(v), veh/h	81	145	56	39	0	87	191	0	169	70	0	194
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1679	1873	0	1658	1052	0	1885
Q Serve(g_s), s	1.7	2.7	1.2	0.8	0.0	1.9	0.0	0.0	2.4	1.7	0.0	2.4
Cycle Q Clear(g_c), s	1.7	2.7	1.2	0.8	0.0	1.9	2.4	0.0	2.4	4.1	0.0	2.4
Prop In Lane	1.00		1.00	1.00		0.75	0.08		0.24	1.00		0.05
Lane Grp Cap(c), veh/h	135	293	249	80	0	208	957	0	760	600	0	863
V/C Ratio(X)	0.60	0.49	0.22	0.49	0.00	0.42	0.20	0.00	0.22	0.12	0.00	0.22
Avail Cap(c_a), veh/h	253	875	744	249	0	769	957	0	760	600	0	863
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.6	15.2	14.6	18.3	0.0	15.9	6.4	0.0	6.4	7.7	0.0	6.4
Incr Delay (d2), s/veh	4.2	1.3	0.5	4.6	0.0	1.3	0.5	0.0	0.7	0.4	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.5	0.6	0.5	0.0	0.9	1.3	0.0	1.2	0.6	0.0	1.4
LnGrp Delay(d),s/veh	21.8	16.5	15.0	22.9	0.0	17.3	6.9	0.0	7.1	8.1	0.0	7.0
LnGrp LOS	C	B	B	C		B	A		A	A		A
Approach Vol, veh/h		282			126			360			264	
Approach Delay, s/veh		17.7			19.0			7.0			7.3	
Approach LOS		B			B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		22.5	6.2	10.6		22.5	7.4	9.4
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.4	18.1		18.0	5.5	18.0
Max Q Clear Time (g_c+I1), s		4.4	2.8	4.7		6.1	3.7	3.9
Green Ext Time (p_c), s		1.7	0.0	0.7		1.0	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	11.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	95	25	40	35	40	5	215	55	95	280	37
Future Volume (veh/h)	15	95	25	40	35	40	5	215	55	95	280	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	104	27	44	38	44	5	236	60	104	308	41
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	240	237	201	226	100	116	705	815	207	782	1024	136
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.01	0.56	0.56	0.07	0.62	0.62
Sat Flow, veh/h	1337	1900	1615	1279	804	931	1810	1463	372	1810	1643	219
Grp Volume(v), veh/h	16	104	27	44	0	82	5	0	296	104	0	349
Grp Sat Flow(s),veh/h/ln	1337	1900	1615	1279	0	1736	1810	0	1834	1810	0	1861
Q Serve(g_s), s	0.6	2.8	0.8	1.8	0.0	2.4	0.1	0.0	4.7	1.2	0.0	4.8
Cycle Q Clear(g_c), s	3.0	2.8	0.8	4.6	0.0	2.4	0.1	0.0	4.7	1.2	0.0	4.8
Prop In Lane	1.00		1.00	1.00		0.54	1.00		0.20	1.00		0.12
Lane Grp Cap(c), veh/h	240	237	201	226	0	216	705	0	1023	782	0	1160
V/C Ratio(X)	0.07	0.44	0.13	0.20	0.00	0.38	0.01	0.00	0.29	0.13	0.00	0.30
Avail Cap(c_a), veh/h	510	622	529	485	0	568	858	0	1023	832	0	1160
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.5	22.3	21.4	24.4	0.0	22.1	5.2	0.0	6.4	3.9	0.0	4.8
Incr Delay (d2), s/veh	0.1	1.3	0.3	0.4	0.0	1.1	0.0	0.0	0.7	0.1	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.5	0.4	0.7	0.0	1.2	0.0	0.0	2.5	0.6	0.0	2.6
LnGrp Delay(d),s/veh	23.6	23.6	21.7	24.8	0.0	23.2	5.3	0.0	7.1	4.0	0.0	5.5
LnGrp LOS	C	C	C	C		C	A		A	A		A
Approach Vol, veh/h		147			126			301			453	
Approach Delay, s/veh		23.2			23.8			7.1			5.1	
Approach LOS		C			C			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.5	35.2		11.4	4.9	38.8		11.4
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.5	18.0		18.0	5.0	18.5		18.0
Max Q Clear Time (g_c+I1), s	3.2	6.7		5.0	2.1	6.8		6.6
Green Ext Time (p_c), s	0.0	1.3		0.5	0.0	1.6		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	34	36	11	20	10	69	160	13	29	283	31
Future Vol, veh/h	40	34	36	11	20	10	69	160	13	29	283	31
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	43	37	39	12	22	11	75	174	14	32	308	34
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.6	9.3	9.9	12.6
HCM LOS	A	A	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	92%	0%	49%	0%	67%	0%	90%
Vol Right, %	0%	8%	0%	51%	0%	33%	0%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	173	40	70	11	30	29	314
LT Vol	69	0	40	0	11	0	29	0
Through Vol	0	160	0	34	0	20	0	283
RT Vol	0	13	0	36	0	10	0	31
Lane Flow Rate	75	188	43	76	12	33	32	341
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.122	0.276	0.081	0.121	0.023	0.055	0.05	0.49
Departure Headway (Hd)	5.837	5.28	6.709	5.738	6.852	6.108	5.741	5.169
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	609	675	537	618	525	590	619	693
Service Time	3.619	3.062	4.409	3.537	4.553	3.809	3.517	2.944
HCM Lane V/C Ratio	0.123	0.279	0.08	0.123	0.023	0.056	0.052	0.492
HCM Control Delay	9.4	10.1	10	9.3	9.7	9.2	8.8	12.9
HCM Lane LOS	A	B	A	A	A	A	A	B
HCM 95th-tile Q	0.4	1.1	0.3	0.4	0.1	0.2	0.2	2.7

Intersection	
Intersection Delay, s/veh	16.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	86	110	20	95	146	18	14	197	89	16	200	143
Future Vol, veh/h	86	110	20	95	146	18	14	197	89	16	200	143
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	91	116	21	100	154	19	15	207	94	17	211	151
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	12.7	13.3	17.6	20.5
HCM LOS	B	B	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	69%	0%	85%	0%	89%	0%	58%
Vol Right, %	0%	31%	0%	15%	0%	11%	0%	42%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	286	86	130	95	164	16	343
LT Vol	14	0	86	0	95	0	16	0
Through Vol	0	197	0	110	0	146	0	200
RT Vol	0	89	0	20	0	18	0	143
Lane Flow Rate	15	301	91	137	100	173	17	361
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.031	0.563	0.199	0.276	0.216	0.345	0.034	0.657
Departure Headway (Hd)	7.468	6.733	7.895	7.271	7.789	7.198	7.356	6.548
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	479	536	454	493	460	499	487	552
Service Time	5.215	4.481	5.653	5.029	5.545	4.953	5.102	4.293
HCM Lane V/C Ratio	0.031	0.562	0.2	0.278	0.217	0.347	0.035	0.654
HCM Control Delay	10.5	17.9	12.6	12.8	12.7	13.7	10.4	21
HCM Lane LOS	B	C	B	B	B	B	B	C
HCM 95th-tile Q	0.1	3.5	0.7	1.1	0.8	1.5	0.1	4.8

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	116	69	11	11	52	11	18	59	11	23	107	140
Future Vol, veh/h	116	69	11	11	52	11	18	59	11	23	107	140
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	122	73	12	12	55	12	19	62	12	24	113	147
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	9.8	9.5	9.6	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	20%	100%	0%	15%	18%	0%
Vol Thru, %	67%	0%	86%	70%	82%	0%
Vol Right, %	12%	0%	14%	15%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	88	116	80	74	130	140
LT Vol	18	116	0	11	23	0
Through Vol	59	0	69	52	107	0
RT Vol	11	0	11	11	0	140
Lane Flow Rate	93	122	84	78	137	147
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.144	0.204	0.127	0.122	0.208	0.192
Departure Headway (Hd)	5.581	6.013	5.412	5.644	5.475	4.681
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	637	593	657	629	653	762
Service Time	3.658	3.789	3.188	3.731	3.236	2.442
HCM Lane V/C Ratio	0.146	0.206	0.128	0.124	0.21	0.193
HCM Control Delay	9.6	10.3	9	9.5	9.7	8.6
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0.5	0.8	0.4	0.4	0.8	0.7

timing, (*b*) the effect of using a roundabout as a segment boundary, (*c*) the effect of midsegment parking maneuvers on facility operation, and (*d*) the use of simulated vehicle trajectories to evaluate the proportion of time that the back of the queue on the minor-street approach to a two-way STOP-controlled intersection exceeds a specified distance from the stop line.

GENERALIZED DAILY SERVICE VOLUMES FOR URBAN STREET FACILITIES

Generalized daily service volume tables provide a means to assess a large number of urban streets in a region or jurisdiction quickly to determine which facilities need to be assessed more carefully (by using operational analysis) to ameliorate existing or pending problems.

To build a generalized daily service volume table for urban street facilities, a number of simplifying assumptions must be made. The assumptions made here include the following:

- All segments of the facility have the same number of through lanes (one, two, or three) in each direction;
- Only traffic signal control is used along the facility (i.e., no roundabouts or all-way STOP-controlled intersections exist);
- The traffic signals are coordinated and semi-actuated, the arrival type is 4, the traffic signal cycle time C is 120 s, and the weighted average green-to-cycle-length (g/C) ratio for through movements (defined below) is 0.45;
- Exclusive left-turn lanes with protected left-turn phasing and adequate queue storage are provided at each signalized intersection, and no exclusive right-turn lanes are provided;
- At each traffic signal, 10% of the traffic on the urban street facility turns left and 10% turns right;
- The peak hour factor is 0.92;
- The facility length is 2 mi, and no restrictive medians exist along the facility; and
- The base saturation flow rate s_o is 1,900 passenger cars per hour per lane (pc/h/ln).

The weighted average g/C ratio of an urban street is the average of the critical intersection through g/C ratio and the average of all the other g/C ratios for the urban street. For example, if there are four signals with a through g/C ratio of 0.50 and one signal with a through g/C ratio of 0.40, the weighted average g/C ratio for the urban street is 0.45. The weighted g/C ratio takes into account the adverse effect of the critical intersection and the overall quality of flow for the urban street.

Generalized daily service volumes are provided in Exhibit 16-14 for urban street facilities with posted speeds of 30 and 45 mi/h; two, four, or six lanes (both directions); and six combinations of the K-factor and D-factor. To use this table, analysts must select a combination of K and D appropriate for their locality.

The 30-mi/h values further assume an average traffic signal spacing of 1,050 ft and 20 access points/mi, while the 45-mi/h values assume an average traffic signal spacing of 1,500 ft and 10 access points/mi.

Exhibit 16-14
Generalized Daily Service Volumes for Urban Street Facilities (1,000 veh/day)

K-Factor	*D*-Factor	Two-Lane Streets				Four-Lane Streets				Six-Lane Streets			
		LOS B	LOS C	LOS D	LOS E	LOS B	LOS C	LOS D	LOS E	LOS B	LOS C	LOS D	LOS E
Posted Speed = 30 mi/h													
0.09	0.55	NA	5.9	15.4	19.9	NA	11.3	31.4	37.9	NA	16.3	46.4	54.3
	0.60	NA	5.4	14.1	18.3	NA	10.3	28.8	34.8	NA	15.0	42.5	49.8
0.10	0.55	NA	5.3	13.8	17.9	NA	10.1	28.2	34.1	NA	14.7	41.8	48.9
	0.60	NA	4.8	12.7	16.4	NA	9.3	25.9	31.3	NA	13.5	38.3	44.8
0.11	0.55	NA	4.8	12.6	16.3	NA	9.2	25.7	31.0	NA	13.4	38.0	44.5
	0.60	NA	4.4	11.5	14.9	NA	8.4	23.5	28.4	NA	12.2	34.8	40.8
Posted Speed = 45 mi/h													
0.09	0.55	NA	10.3	18.6	19.9	NA	21.4	37.2	37.9	NA	31.9	54.0	54.3
	0.60	NA	9.4	17.1	18.3	NA	19.6	34.1	34.8	NA	29.2	49.5	49.8
0.10	0.55	NA	9.3	16.8	17.9	NA	19.3	33.5	34.1	NA	28.7	48.6	48.9
	0.60	NA	8.5	15.4	16.4	NA	17.7	30.7	31.3	NA	26.3	44.5	44.8
0.11	0.55	NA	8.4	15.3	16.3	NA	17.5	30.5	31.0	NA	26.1	44.2	44.4
	0.60	NA	7.7	14.0	14.9	NA	16.1	27.9	28.4	NA	23.9	40.5	40.7

Notes: NA = not applicable; LOS cannot be achieved with the stated assumptions.
General assumptions include no roundabouts or all-way STOP-controlled intersections along the facility; coordinated, semi-actuated traffic signals; arrival type 4; 120-s cycle time; protected left-turn phases; 0.45 weighted average *g/C* ratio; exclusive left-turn lanes with adequate queue storage provided at traffic signals; no exclusive right-turn lanes provided; no restrictive median; 2-mi facility length; 10% of traffic turns left and 10% turns right at each traffic signal; peak hour factor = 0.92; and base saturation flow rate = 1,900 pc/h/ln.
Additional assumptions for 30-mi/h facilities: signal spacing = 1,050 ft and 20 access points/mi.
Additional assumptions for 45-mi/h facilities: signal spacing = 1,500 ft and 10 access points/mi.

Exhibit 16-14 is provided for general planning use and should *not* be used to analyze any specific urban street facility or to make final decisions on important design features. A full operational analysis using this chapter's methodology is required for such specific applications.

The exhibit is useful, however, in evaluating the overall performance of a large number of urban streets within a jurisdiction, as a first pass to determine where problems might exist or arise, or to determine where improvements might be needed. Any urban street identified as likely to experience problems or need improvement, however, should then be subjected to a full operational analysis before any decisions on implementing specific improvements are made.

Daily service volumes are strongly affected by the *K*- and *D*-factors chosen as typical for the analysis. It is important that the values used for the facilities under study be reasonable. Also, if any characteristic is significantly different from the typical values used to develop Exhibit 16-14, particularly the weighted average *g/C* ratio and traffic signal spacing, the values taken from this exhibit will not be representative of the study facilities. In such cases, analysts are advised to develop their own generalized service volume tables by using representative local values or to proceed to a full operational analysis.

ACTIVE TRAFFIC MANAGEMENT STRATEGIES

Active traffic management (ATM) consists of the dynamic and continuous monitoring and control of traffic operations on a facility to improve facility performance. Examples of ATM measures on urban streets include congestion pricing zones, adaptive/responsive signal control, demand metering, changeable

Appendix B

Future Year 2040 LOS Calculations

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	36	4	46	52	86	9	216	32	19	185	17
Future Vol, veh/h	6	36	4	46	52	86	9	216	32	19	185	17
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	-	-	-	150	-	-	150	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	47	5	60	68	112	12	281	42	25	240	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	717	648	251	653	638	302	262	0	0	323	0	0
Stage 1	301	301	-	326	326	-	-	-	-	-	-	-
Stage 2	416	347	-	327	312	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	347	392	793	383	397	742	1314	-	-	1248	-	-
Stage 1	712	669	-	691	652	-	-	-	-	-	-	-
Stage 2	618	638	-	690	661	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	249	381	793	337	385	742	1314	-	-	1248	-	-
Mov Cap-2 Maneuver	249	381	-	337	385	-	-	-	-	-	-	-
Stage 1	706	656	-	685	646	-	-	-	-	-	-	-
Stage 2	466	632	-	624	648	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.5	15.5	0.3	0.7
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1314	-	-	372	337	550	1248	-	-
HCM Lane V/C Ratio	0.009	-	-	0.161	0.177	0.326	0.02	-	-
HCM Control Delay (s)	7.8	-	-	16.5	18	14.7	7.9	0	-
HCM Lane LOS	A	-	-	C	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.6	1.4	0.1	-	-

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	66	23	15	17	45	6	116	75	60	95	3
Future Vol, veh/h	11	66	23	15	17	45	6	116	75	60	95	3
Peak Hour Factor	0.92	0.92	0.92	0.88	0.92	0.88	0.92	0.88	0.88	0.88	0.88	0.92
Heavy Vehicles, %	0	0	0	2	0	2	0	2	2	2	2	0
Mvmt Flow	12	72	25	17	18	51	7	132	85	68	108	3
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.1	8.6	9.8	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	61%	0%	74%	0%	27%	0%	97%
Vol Right, %	0%	39%	0%	26%	0%	73%	0%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	191	11	89	15	62	60	98
LT Vol	6	0	11	0	15	0	60	0
Through Vol	0	116	0	66	0	17	0	95
RT Vol	0	75	0	23	0	45	0	3
Lane Flow Rate	7	217	12	97	17	70	68	111
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.01	0.299	0.02	0.146	0.029	0.099	0.109	0.162
Departure Headway (Hd)	5.703	4.958	6.107	5.421	6.176	5.125	5.76	5.236
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	626	723	584	658	577	695	620	682
Service Time	3.455	2.71	3.868	3.181	3.939	2.887	3.515	2.99
HCM Lane V/C Ratio	0.011	0.3	0.021	0.147	0.029	0.101	0.11	0.163
HCM Control Delay	8.5	9.8	9	9.1	9.1	8.5	9.2	9
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0	1.3	0.1	0.5	0.1	0.3	0.4	0.6

Intersection	
Intersection Delay, s/veh	17.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	24	5	30	9	80	3	273	227	123	99	9
Future Vol, veh/h	31	24	5	30	9	80	3	273	227	123	99	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	26	5	33	10	87	3	297	247	134	108	10
Number of Lanes	0	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	11	10.1	24	10.4
HCM LOS	B	B	C	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	52%	100%	0%	100%	0%
Vol Thru, %	0%	55%	40%	0%	10%	0%	92%
Vol Right, %	0%	45%	8%	0%	90%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	500	60	30	89	123	108
LT Vol	3	0	31	30	0	123	0
Through Vol	0	273	24	0	9	0	99
RT Vol	0	227	5	0	80	0	9
Lane Flow Rate	3	543	65	33	97	134	117
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.005	0.783	0.126	0.066	0.164	0.234	0.187
Departure Headway (Hd)	6.011	5.186	6.951	7.243	6.095	6.291	5.725
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	596	701	515	494	587	571	627
Service Time	3.74	2.914	5.004	4.989	3.841	4.027	3.461
HCM Lane V/C Ratio	0.005	0.775	0.126	0.067	0.165	0.235	0.187
HCM Control Delay	8.8	24.1	11	10.5	10	10.9	9.8
HCM Lane LOS	A	C	B	B	A	B	A
HCM 95th-tile Q	0	7.7	0.4	0.2	0.6	0.9	0.7

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	24	29	6	4	9	50	3	416	3	21	109	4
Future Vol, veh/h	24	29	6	4	9	50	3	416	3	21	109	4
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	-	-	-	-	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	32	7	4	10	54	3	452	3	23	118	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	658	627	120	646	628	454	122	0	0	455	0	0
Stage 1	166	166	-	460	460	-	-	-	-	-	-	-
Stage 2	492	461	-	186	168	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	378	400	931	385	400	606	1465	-	-	1106	-	-
Stage 1	836	761	-	581	566	-	-	-	-	-	-	-
Stage 2	558	565	-	816	759	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	331	390	931	352	390	606	1465	-	-	1106	-	-
Mov Cap-2 Maneuver	331	390	-	352	390	-	-	-	-	-	-	-
Stage 1	833	744	-	579	564	-	-	-	-	-	-	-
Stage 2	498	563	-	759	742	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.2	12.6	0.1	1.3
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1465	-	-	385	539	1106	-	-
HCM Lane V/C Ratio	0.002	-	-	0.167	0.127	0.021	-	-
HCM Control Delay (s)	7.5	0	-	16.2	12.6	8.3	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.4	0.1	-	-

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	30	1	204	43	220	1	133	74	83	10	2
Future Vol, veh/h	10	30	1	204	43	220	1	133	74	83	10	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	33	1	222	47	239	1	145	80	90	11	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	16.9	11	10.1
HCM LOS	A	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	24%	44%	87%
Vol Thru, %	64%	73%	9%	11%
Vol Right, %	36%	2%	47%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	208	41	467	95
LT Vol	1	10	204	83
Through Vol	133	30	43	10
RT Vol	74	1	220	2
Lane Flow Rate	226	45	508	103
Geometry Grp	1	1	1	1
Degree of Util (X)	0.333	0.07	0.671	0.169
Departure Headway (Hd)	5.304	5.615	4.76	5.876
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	678	637	761	610
Service Time	3.342	3.656	2.76	3.919
HCM Lane V/C Ratio	0.333	0.071	0.668	0.169
HCM Control Delay	11	9.1	16.9	10.1
HCM Lane LOS	B	A	C	B
HCM 95th-tile Q	1.5	0.2	5.2	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	25	17	62	99	54	49	234	24	40	217	53
Future Volume (veh/h)	14	25	17	62	99	54	49	234	24	40	217	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	18	31	21	78	124	68	61	292	30	50	271	66
Adj No. of Lanes	1	1	1	1	1	0	0	2	0	1	1	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	41	229	195	132	197	108	282	1214	124	607	681	166
Arrive On Green	0.02	0.12	0.12	0.07	0.17	0.17	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	1810	1900	1615	1810	1155	633	350	2634	269	1075	1477	360
Grp Volume(v), veh/h	18	31	21	78	0	192	195	0	188	50	0	337
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1788	1572	0	1682	1075	0	1837
Q Serve(g_s), s	0.4	0.6	0.5	1.6	0.0	3.9	0.1	0.0	2.6	1.2	0.0	4.7
Cycle Q Clear(g_c), s	0.4	0.6	0.5	1.6	0.0	3.9	4.8	0.0	2.6	3.8	0.0	4.7
Prop In Lane	1.00		1.00	1.00		0.35	0.31		0.16	1.00		0.20
Lane Grp Cap(c), veh/h	41	229	195	132	0	306	845	0	775	607	0	846
V/C Ratio(X)	0.44	0.14	0.11	0.59	0.00	0.63	0.23	0.00	0.24	0.08	0.00	0.40
Avail Cap(c_a), veh/h	232	875	744	255	0	847	845	0	775	607	0	846
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.8	15.4	15.3	17.5	0.0	15.0	6.3	0.0	6.4	7.5	0.0	7.0
Incr Delay (d2), s/veh	7.2	0.3	0.2	4.1	0.0	2.1	0.6	0.0	0.7	0.3	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.3	0.2	1.0	0.0	2.1	1.4	0.0	1.4	0.4	0.0	2.7
LnGrp Delay(d),s/veh	26.0	15.6	15.5	21.7	0.0	17.2	7.0	0.0	7.1	7.8	0.0	8.4
LnGrp LOS	C	B	B	C		B	A		A	A		A
Approach Vol, veh/h		70			270			383			387	
Approach Delay, s/veh		18.3			18.5			7.1			8.3	
Approach LOS		B			B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		22.5	7.4	9.2		22.5	5.4	11.2
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.5	18.0		18.0	5.0	18.5
Max Q Clear Time (g_c+I1), s		6.8	3.6	2.6		6.7	2.4	5.9
Green Ext Time (p_c), s		1.7	0.0	0.1		1.7	0.0	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	11.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	70	99	7	59	9	25	146	3	11	207	34
Future Volume (veh/h)	38	70	99	7	59	9	25	146	3	11	207	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	40	74	104	7	62	9	26	154	3	12	218	36
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	232	209	178	222	179	26	818	1169	23	902	978	161
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.03	0.63	0.63	0.02	0.61	0.61
Sat Flow, veh/h	1350	1900	1615	1225	1623	236	1810	1857	36	1810	1591	263
Grp Volume(v), veh/h	40	74	104	7	0	71	26	0	157	12	0	254
Grp Sat Flow(s),veh/h/ln	1350	1900	1615	1225	0	1858	1810	0	1894	1810	0	1854
Q Serve(g_s), s	1.6	2.0	3.4	0.3	0.0	1.9	0.3	0.0	1.8	0.1	0.0	3.4
Cycle Q Clear(g_c), s	3.5	2.0	3.4	2.3	0.0	1.9	0.3	0.0	1.8	0.1	0.0	3.4
Prop In Lane	1.00		1.00	1.00		0.13	1.00		0.02	1.00		0.14
Lane Grp Cap(c), veh/h	232	209	178	222	0	205	818	0	1191	902	0	1139
V/C Ratio(X)	0.17	0.35	0.58	0.03	0.00	0.35	0.03	0.00	0.13	0.01	0.00	0.22
Avail Cap(c_a), veh/h	525	622	529	488	0	608	928	0	1191	1039	0	1139
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.3	22.7	23.3	23.7	0.0	22.6	3.6	0.0	4.1	3.8	0.0	4.7
Incr Delay (d2), s/veh	0.3	1.0	3.0	0.1	0.0	1.0	0.0	0.0	0.2	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	1.7	0.1	0.0	1.0	0.1	0.0	1.0	0.1	0.0	1.8
LnGrp Delay(d),s/veh	24.6	23.7	26.3	23.8	0.0	23.6	3.6	0.0	4.4	3.8	0.0	5.2
LnGrp LOS	C	C	C	C		C	A		A	A		A
Approach Vol, veh/h		218			78			183			266	
Approach Delay, s/veh		25.1			23.7			4.3			5.1	
Approach LOS		C			C			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	39.1		10.6	6.1	38.3		10.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	18.5		18.0	5.0	18.5		18.0
Max Q Clear Time (g_c+I1), s	2.1	3.8		5.5	2.3	5.4		4.3
Green Ext Time (p_c), s	0.0	0.6		0.6	0.0	1.2		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	22	23	19	49	36	35	176	10	18	170	34
Future Vol, veh/h	23	22	23	19	49	36	35	176	10	18	170	34
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	24	23	24	20	52	38	37	185	11	19	179	36
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.9	9.1	9.8	10
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	95%	0%	49%	0%	58%	0%	83%
Vol Right, %	0%	5%	0%	51%	0%	42%	0%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	186	23	45	19	85	18	204
LT Vol	35	0	23	0	19	0	18	0
Through Vol	0	176	0	22	0	49	0	170
RT Vol	0	10	0	23	0	36	0	34
Lane Flow Rate	37	196	24	47	20	89	19	215
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.059	0.282	0.042	0.072	0.035	0.135	0.03	0.305
Departure Headway (Hd)	5.72	5.179	6.304	5.438	6.252	5.448	5.726	5.106
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	624	691	565	654	570	654	623	700
Service Time	3.478	2.936	4.081	3.214	4.023	3.219	3.484	2.863
HCM Lane V/C Ratio	0.059	0.284	0.042	0.072	0.035	0.136	0.03	0.307
HCM Control Delay	8.8	10	9.4	8.6	9.3	9.1	8.7	10.1
HCM Lane LOS	A	A	A	A	A	A	A	B
HCM 95th-tile Q	0.2	1.2	0.1	0.2	0.1	0.5	0.1	1.3

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	109	23	57	106	13	18	149	75	12	126	79
Future Vol, veh/h	97	109	23	57	106	13	18	149	75	12	126	79
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	109	122	26	64	119	15	20	167	84	13	142	89
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	11.3	11.1	12.9	12.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	67%	0%	83%	0%	89%	0%	61%
Vol Right, %	0%	33%	0%	17%	0%	11%	0%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	18	224	97	132	57	119	12	205
LT Vol	18	0	97	0	57	0	12	0
Through Vol	0	149	0	109	0	106	0	126
RT Vol	0	75	0	23	0	13	0	79
Lane Flow Rate	20	252	109	148	64	134	13	230
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.038	0.422	0.209	0.258	0.124	0.238	0.026	0.387
Departure Headway (Hd)	6.786	6.04	6.888	6.257	6.994	6.408	6.834	6.052
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	526	594	519	571	510	558	522	592
Service Time	4.55	3.804	4.654	4.022	4.763	4.177	4.599	3.816
HCM Lane V/C Ratio	0.038	0.424	0.21	0.259	0.125	0.24	0.025	0.389
HCM Control Delay	9.8	13.2	11.5	11.2	10.8	11.2	9.8	12.6
HCM Lane LOS	A	B	B	B	B	B	A	B
HCM 95th-tile Q	0.1	2.1	0.8	1	0.4	0.9	0.1	1.8

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	63	28	5	36	25	13	9	45	2	3	61	103
Future Vol, veh/h	63	28	5	36	25	13	9	45	2	3	61	103
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	71	31	6	40	28	15	10	51	2	3	69	116
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	8.8	9	8.8	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	16%	100%	0%	49%	5%	0%
Vol Thru, %	80%	0%	85%	34%	95%	0%
Vol Right, %	4%	0%	15%	18%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	56	63	33	74	64	103
LT Vol	9	63	0	36	3	0
Through Vol	45	0	28	25	61	0
RT Vol	2	0	5	13	0	103
Lane Flow Rate	63	71	37	83	72	116
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.091	0.112	0.052	0.121	0.102	0.141
Departure Headway (Hd)	5.234	5.682	5.073	5.228	5.1	4.373
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	685	631	706	685	703	821
Service Time	3.267	3.415	2.805	3.261	2.826	2.099
HCM Lane V/C Ratio	0.092	0.113	0.052	0.121	0.102	0.141
HCM Control Delay	8.8	9.1	8.1	9	8.4	7.8
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0.2	0.4	0.3	0.5

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	4	1	44	4	57	1	267	78	44	258	2
Future Vol, veh/h	4	4	1	44	4	57	1	267	78	44	258	2
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	-	-	-	150	-	-	150	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	5	1	54	5	70	1	326	95	54	315	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	837	847	316	803	801	374	317	0	0	421	0	0
Stage 1	424	424	-	376	376	-	-	-	-	-	-	-
Stage 2	413	423	-	427	425	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	288	301	729	304	320	677	1255	-	-	1149	-	-
Stage 1	612	590	-	649	620	-	-	-	-	-	-	-
Stage 2	620	591	-	610	590	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	246	287	729	289	305	677	1255	-	-	1149	-	-
Mov Cap-2 Maneuver	246	287	-	289	305	-	-	-	-	-	-	-
Stage 1	611	562	-	648	619	-	-	-	-	-	-	-
Stage 2	552	590	-	575	562	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.1	15.2	0	1.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1255	-	-	285	289	627	1149	-	-
HCM Lane V/C Ratio	0.001	-	-	0.039	0.186	0.119	0.047	-	-
HCM Control Delay (s)	7.9	-	-	18.1	20.3	11.5	8.3	0	-
HCM Lane LOS	A	-	-	C	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.7	0.4	0.1	-	-

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	35	12	58	65	67	22	153	36	100	216	11
Future Vol, veh/h	6	35	12	58	65	67	22	153	36	100	216	11
Peak Hour Factor	0.92	0.92	0.92	0.96	0.92	0.96	0.92	0.96	0.96	0.96	0.96	0.92
Heavy Vehicles, %	0	0	0	2	0	2	0	2	2	2	2	0
Mvmt Flow	7	38	13	60	71	70	24	159	38	104	225	12
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.5	10.1	10.6	11.1
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	81%	0%	74%	0%	49%	0%	95%
Vol Right, %	0%	19%	0%	26%	0%	51%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	189	6	47	58	132	100	227
LT Vol	22	0	6	0	58	0	100	0
Through Vol	0	153	0	35	0	65	0	216
RT Vol	0	36	0	12	0	67	0	11
Lane Flow Rate	24	197	7	51	60	140	104	237
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.041	0.307	0.012	0.087	0.111	0.224	0.176	0.367
Departure Headway (Hd)	6.215	5.61	6.853	6.164	6.637	5.737	6.091	5.575
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	577	642	523	581	541	626	591	649
Service Time	3.942	3.336	4.589	3.9	4.366	3.466	3.813	3.275
HCM Lane V/C Ratio	0.042	0.307	0.013	0.088	0.111	0.224	0.176	0.365
HCM Control Delay	9.2	10.8	9.7	9.5	10.2	10.1	10.1	11.5
HCM Lane LOS	A	B	A	A	B	B	B	B
HCM 95th-tile Q	0.1	1.3	0	0.3	0.4	0.9	0.6	1.7

Intersection	
Intersection Delay, s/veh	19.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	20	4	56	28	147	6	234	204	214	235	32
Future Vol, veh/h	17	20	4	56	28	147	6	234	204	214	235	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	22	4	61	30	160	7	254	222	233	255	35
Number of Lanes	0	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	11.9	12.7	27.8	14.8
HCM LOS	B	B	D	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	41%	100%	0%	100%	0%
Vol Thru, %	0%	53%	49%	0%	16%	0%	88%
Vol Right, %	0%	47%	10%	0%	84%	0%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	438	41	56	175	214	267
LT Vol	6	0	17	56	0	214	0
Through Vol	0	234	20	0	28	0	235
RT Vol	0	204	4	0	147	0	32
Lane Flow Rate	7	476	45	61	190	233	290
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.012	0.793	0.099	0.131	0.351	0.436	0.497
Departure Headway (Hd)	6.835	5.995	8.02	7.754	6.643	6.753	6.159
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	521	600	450	460	538	530	580
Service Time	4.613	3.773	6.02	5.544	4.431	4.532	3.938
HCM Lane V/C Ratio	0.013	0.793	0.1	0.133	0.353	0.44	0.5
HCM Control Delay	9.7	28	11.9	11.7	13	14.7	14.9
HCM Lane LOS	A	D	B	B	B	B	B
HCM 95th-tile Q	0	7.7	0.3	0.4	1.6	2.2	2.8

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	15	2	9	36	108	6	330	5	51	196	19
Future Vol, veh/h	11	15	2	9	36	108	6	330	5	51	196	19
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	-	-	-	-	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	16	2	10	39	117	7	359	5	55	213	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	788	712	224	719	720	362	234	0	0	364	0	0
Stage 1	334	334	-	376	376	-	-	-	-	-	-	-
Stage 2	454	378	-	343	344	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	309	358	815	344	354	683	1333	-	-	1195	-	-
Stage 1	680	643	-	645	616	-	-	-	-	-	-	-
Stage 2	586	615	-	672	637	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	222	337	815	315	333	683	1333	-	-	1195	-	-
Mov Cap-2 Maneuver	222	337	-	315	333	-	-	-	-	-	-	-
Stage 1	675	609	-	640	612	-	-	-	-	-	-	-
Stage 2	451	611	-	618	603	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.9	15.2	0.1	1.6
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1333	-	-	290	519	1195	-	-
HCM Lane V/C Ratio	0.005	-	-	0.105	0.32	0.046	-	-
HCM Control Delay (s)	7.7	0	-	18.9	15.2	8.2	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	1.4	0.1	-	-

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	35	1	160	47	178	1	95	68	176	15	7
Future Vol, veh/h	16	35	1	160	47	178	1	95	68	176	15	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	38	1	174	51	193	1	103	74	191	16	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	14.5	10.2	11.5
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	31%	42%	89%
Vol Thru, %	58%	67%	12%	8%
Vol Right, %	41%	2%	46%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	164	52	385	198
LT Vol	1	16	160	176
Through Vol	95	35	47	15
RT Vol	68	1	178	7
Lane Flow Rate	178	57	418	215
Geometry Grp	1	1	1	1
Degree of Util (X)	0.263	0.09	0.576	0.337
Departure Headway (Hd)	5.304	5.73	4.959	5.629
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	676	623	732	637
Service Time	3.348	3.78	2.959	3.671
HCM Lane V/C Ratio	0.263	0.091	0.571	0.338
HCM Control Delay	10.2	9.4	14.5	11.5
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.1	0.3	3.7	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	149	57	40	22	66	15	313	42	72	190	9
Future Volume (veh/h)	83	149	57	40	22	66	15	313	42	72	190	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	89	160	61	43	24	71	16	337	45	77	204	10
Adj No. of Lanes	1	1	1	1	1	0	0	2	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	143	295	251	86	53	156	119	1405	182	575	818	40
Arrive On Green	0.08	0.16	0.16	0.05	0.12	0.12	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	1810	1900	1615	1810	424	1255	46	3086	399	1017	1796	88
Grp Volume(v), veh/h	89	160	61	43	0	95	211	0	187	77	0	214
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1679	1872	0	1659	1017	0	1884
Q Serve(g_s), s	1.9	3.1	1.3	0.9	0.0	2.1	0.0	0.0	2.7	2.0	0.0	2.8
Cycle Q Clear(g_c), s	1.9	3.1	1.3	0.9	0.0	2.1	2.7	0.0	2.7	4.7	0.0	2.8
Prop In Lane	1.00		1.00	1.00		0.75	0.08		0.24	1.00		0.05
Lane Grp Cap(c), veh/h	143	295	251	86	0	208	951	0	755	575	0	858
V/C Ratio(X)	0.62	0.54	0.24	0.50	0.00	0.46	0.22	0.00	0.25	0.13	0.00	0.25
Avail Cap(c_a), veh/h	252	865	736	252	0	765	951	0	755	575	0	858
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.6	15.4	14.7	18.4	0.0	16.1	6.6	0.0	6.6	8.1	0.0	6.6
Incr Delay (d2), s/veh	4.4	1.5	0.5	4.4	0.0	1.6	0.5	0.0	0.8	0.5	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.7	0.6	0.6	0.0	1.0	1.5	0.0	1.4	0.6	0.0	1.6
LnGrp Delay(d),s/veh	22.0	16.9	15.1	22.8	0.0	17.6	7.1	0.0	7.4	8.5	0.0	7.3
LnGrp LOS	C	B	B	C		B	A		A	A		A
Approach Vol, veh/h		310			138			398			291	
Approach Delay, s/veh		18.0			19.2			7.3			7.6	
Approach LOS		B			B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		22.5	6.4	10.6		22.5	7.6	9.4
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0	5.5	18.0		18.0	5.5	18.0
Max Q Clear Time (g_c+I1), s		4.7	2.9	5.1		6.7	3.9	4.1
Green Ext Time (p_c), s		1.9	0.0	0.8		1.2	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	11.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	105	28	44	39	44	6	238	61	105	309	41
Future Volume (veh/h)	17	105	28	44	39	44	6	238	61	105	309	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	19	115	31	48	43	48	7	262	67	115	340	45
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	246	256	217	230	111	123	664	796	203	742	1004	133
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.01	0.54	0.54	0.08	0.61	0.61
Sat Flow, veh/h	1326	1900	1615	1262	821	917	1810	1461	374	1810	1644	218
Grp Volume(v), veh/h	19	115	31	48	0	91	7	0	329	115	0	385
Grp Sat Flow(s),veh/h/ln	1326	1900	1615	1262	0	1738	1810	0	1834	1810	0	1862
Q Serve(g_s), s	0.7	3.1	0.9	2.0	0.0	2.6	0.1	0.0	5.5	1.3	0.0	5.6
Cycle Q Clear(g_c), s	3.4	3.1	0.9	5.1	0.0	2.6	0.1	0.0	5.5	1.3	0.0	5.6
Prop In Lane	1.00		1.00	1.00		0.53	1.00		0.20	1.00		0.12
Lane Grp Cap(c), veh/h	246	256	217	230	0	234	664	0	999	742	0	1137
V/C Ratio(X)	0.08	0.45	0.14	0.21	0.00	0.39	0.01	0.00	0.33	0.15	0.00	0.34
Avail Cap(c_a), veh/h	502	622	529	473	0	569	812	0	999	787	0	1137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.3	21.9	21.0	24.3	0.0	21.7	5.5	0.0	6.9	4.2	0.0	5.3
Incr Delay (d2), s/veh	0.1	1.2	0.3	0.4	0.0	1.1	0.0	0.0	0.9	0.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.7	0.4	0.7	0.0	1.3	0.0	0.0	3.0	0.7	0.0	3.0
LnGrp Delay(d),s/veh	23.4	23.2	21.3	24.7	0.0	22.8	5.5	0.0	7.8	4.3	0.0	6.1
LnGrp LOS	C	C	C	C		C	A		A	A		A
Approach Vol, veh/h		165			139			336			500	
Approach Delay, s/veh		22.8			23.4			7.8			5.7	
Approach LOS		C			C			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.6	34.5		11.9	5.0	38.1		11.9
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.5	18.0		18.0	5.0	18.5		18.0
Max Q Clear Time (g_c+I1), s	3.3	7.5		5.4	2.1	7.6		7.1
Green Ext Time (p_c), s	0.0	1.4		0.5	0.0	1.7		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.9
HCM 2010 LOS	B

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	38	40	12	22	11	76	177	14	32	313	34
Future Vol, veh/h	44	38	40	12	22	11	76	177	14	32	313	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	48	41	43	13	24	12	83	192	15	35	340	37
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10	9.6	10.5	14.3
HCM LOS	A	A	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	93%	0%	49%	0%	67%	0%	90%
Vol Right, %	0%	7%	0%	51%	0%	33%	0%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	76	191	44	78	12	33	32	347
LT Vol	76	0	44	0	12	0	32	0
Through Vol	0	177	0	38	0	22	0	313
RT Vol	0	14	0	40	0	11	0	34
Lane Flow Rate	83	208	48	85	13	36	35	377
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.139	0.317	0.092	0.142	0.026	0.063	0.057	0.563
Departure Headway (Hd)	6.062	5.505	6.902	6.03	7.077	6.331	5.942	5.369
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	594	656	520	595	506	566	606	675
Service Time	3.771	3.215	4.635	3.763	4.815	4.069	3.648	3.075
HCM Lane V/C Ratio	0.14	0.317	0.092	0.143	0.026	0.064	0.058	0.559
HCM Control Delay	9.7	10.8	10.3	9.8	10	9.5	9	14.8
HCM Lane LOS	A	B	B	A	A	A	A	B
HCM 95th-tile Q	0.5	1.4	0.3	0.5	0.1	0.2	0.2	3.5

Intersection	
Intersection Delay, s/veh	22.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	107	138	25	105	165	20	15	218	98	16	221	163
Future Vol, veh/h	107	138	25	105	165	20	15	218	98	16	221	163
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	113	145	26	111	174	21	16	229	103	17	233	172
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	15.1	15.7	24.4	31.9
HCM LOS	C	C	C	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	69%	0%	85%	0%	89%	0%	58%
Vol Right, %	0%	31%	0%	15%	0%	11%	0%	42%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	316	107	163	105	185	16	384
LT Vol	15	0	107	0	105	0	16	0
Through Vol	0	218	0	138	0	165	0	221
RT Vol	0	98	0	25	0	20	0	163
Lane Flow Rate	16	333	113	172	111	195	17	404
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.036	0.688	0.269	0.379	0.262	0.43	0.037	0.798
Departure Headway (Hd)	8.188	7.449	8.589	7.961	8.53	7.945	8.051	7.231
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	439	489	419	453	422	456	447	505
Service Time	5.898	5.159	6.317	5.689	6.257	5.662	5.751	4.931
HCM Lane V/C Ratio	0.036	0.681	0.27	0.38	0.263	0.428	0.038	0.8
HCM Control Delay	11.2	25	14.5	15.5	14.3	16.5	11.1	32.8
HCM Lane LOS	B	C	B	C	B	C	B	D
HCM 95th-tile Q	0.1	5.2	1.1	1.7	1	2.1	0.1	7.4

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	147	87	14	12	70	12	24	65	11	25	118	187
Future Vol, veh/h	147	87	14	12	70	12	24	65	11	25	118	187
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	155	92	15	13	74	13	25	68	12	26	124	197
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	10.8	10.3	10.4	10
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	24%	100%	0%	13%	17%	0%
Vol Thru, %	65%	0%	86%	74%	83%	0%
Vol Right, %	11%	0%	14%	13%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	147	101	94	143	187
LT Vol	24	147	0	12	25	0
Through Vol	65	0	87	70	118	0
RT Vol	11	0	14	12	0	187
Lane Flow Rate	105	155	106	99	151	197
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.176	0.273	0.17	0.167	0.244	0.276
Departure Headway (Hd)	6.03	6.359	5.755	6.068	5.84	5.045
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	596	566	624	592	619	717
Service Time	4.062	4.088	3.484	4.1	3.54	2.745
HCM Lane V/C Ratio	0.176	0.274	0.17	0.167	0.244	0.275
HCM Control Delay	10.4	11.5	9.7	10.3	10.4	9.7
HCM Lane LOS	B	B	A	B	B	A
HCM 95th-tile Q	0.6	1.1	0.6	0.6	1	1.1

Appendix C

Future Intersection Control Evaluation

Peak-Hour Factor

Refer to the peak-hour factor discussion in this chapter under Section II, Urban Streets, Required Input Data and Estimated Values.

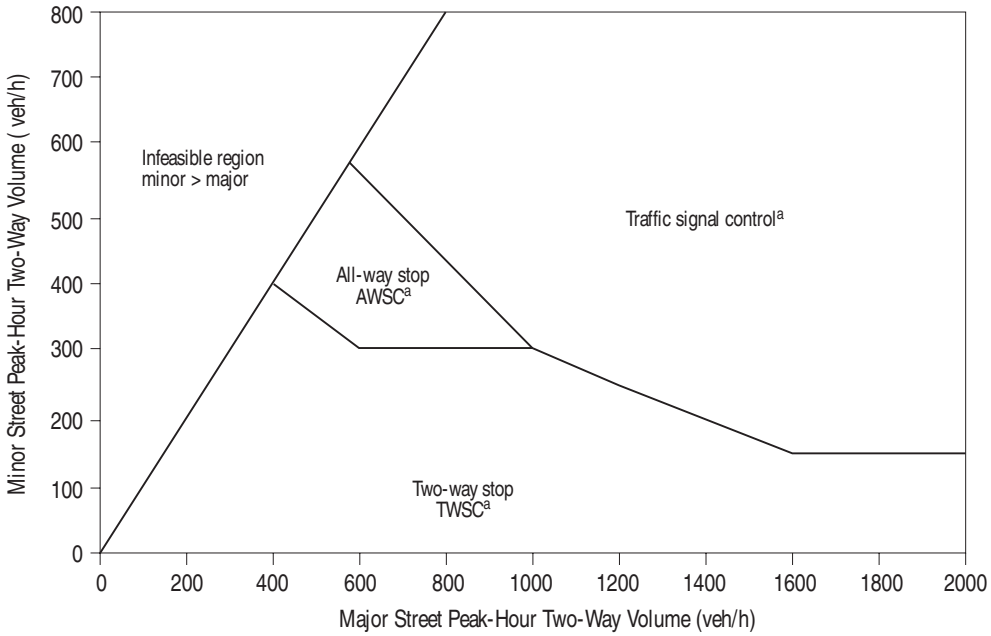
Length of Analysis Period

Refer to the length of analysis period discussion in this chapter under Section II, Urban Streets, Required Input Data and Estimated Values.

Intersection Control Type

The intersection control type for an existing facility is known, by definition. In the case of future facilities, the likely intersection control types can be forecast using Exhibit 10-15 and the forecast two-way peak-hour volumes on the major and minor streets. Note that this exhibit is based on a set of specific assumptions, which are identified in a footnote.

EXHIBIT 10-15. INTERSECTION CONTROL TYPE AND PEAK-HOUR VOLUMES
(SEE FOOTNOTE FOR ASSUMED VALUES)



Notes
a. Roundabouts may be appropriate within portion of these ranges.
Source: Adapted from *Traffic Control Devices Handbook* (*8,* pp. 4–18) - peak-direction, 8-h warrants converted to two-way peak-hour volumes assuming ADT equals twice the 8-h volume and peak hour is 10 percent of daily. Two-way volumes assumed to be 150 percent of peak-direction volume.

Cycle Length

Greater accuracy can be achieved when using the computational methodology if the cycle length for each intersection along the urban street is known or can be calculated on the basis of intersection-specific data. In the absence of a known cycle length or intersection-specific data, the cycle lengths for signalized intersections along an urban street can be estimated using the default values in Exhibit 10-16.

EXHIBIT 10-16. DEFAULT CYCLE LENGTHS BY AREA TYPE

Area Type	Default (s)
CBD	70
Other	100

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	35	12	58	65	67	22	153	36	100	216	11
Future Vol, veh/h	6	35	12	58	65	67	22	153	36	100	216	11
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	0	-	-	150	-	-	0	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	96	92	96	92	96	96	96	96	92
Heavy Vehicles, %	0	0	0	2	0	2	0	2	2	2	2	0
Mvmt Flow	7	38	13	60	71	70	24	159	38	104	225	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	736	684	231	691	671	178	237	0	0	197	0	0
Stage 1	439	439	-	226	226	-	-	-	-	-	-	-
Stage 2	297	245	-	465	445	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.5	6.22	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4	3.318	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	337	374	813	359	380	865	1342	-	-	1376	-	-
Stage 1	601	582	-	777	721	-	-	-	-	-	-	-
Stage 2	716	707	-	578	578	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	243	339	813	300	345	865	1342	-	-	1376	-	-
Mov Cap-2 Maneuver	243	339	-	300	345	-	-	-	-	-	-	-
Stage 1	590	538	-	763	708	-	-	-	-	-	-	-
Stage 2	582	694	-	489	534	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.9	16.6	0.8	2.4
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1342	-	-	243	398	300	492	1376	-	-
HCM Lane V/C Ratio	0.018	-	-	0.027	0.128	0.201	0.285	0.076	-	-
HCM Control Delay (s)	7.7	-	-	20.2	15.4	20	15.2	7.8	-	-
HCM Lane LOS	A	-	-	C	C	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.4	0.7	1.2	0.2	-	-

Intersection	
Int Delay, s/veh	8.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	20	4	56	28	147	6	234	204	214	235	32
Future Vol, veh/h	17	20	4	56	28	147	6	234	204	214	235	32
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	-	-	-	0	-	-	0	-	-	0	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	22	4	61	30	160	7	254	222	233	255	35

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1213	1229	273	1131	1135	365	290	0	0	476	0	0
Stage 1	739	739	-	379	379	-	-	-	-	-	-	-
Stage 2	474	490	-	752	756	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	159	178	766	181	202	680	1272	-	-	1086	-	-
Stage 1	409	424	-	643	615	-	-	-	-	-	-	-
Stage 2	571	549	-	402	416	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	87	139	766	132	158	680	1272	-	-	1086	-	-
Mov Cap-2 Maneuver	87	139	-	132	158	-	-	-	-	-	-	-
Stage 1	407	333	-	639	611	-	-	-	-	-	-	-
Stage 2	413	546	-	293	327	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	52.3	27.4	0.1	4.1
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1272	-	-	119	132	445	1086	-	-
HCM Lane V/C Ratio	0.005	-	-	0.374	0.461	0.427	0.214	-	-
HCM Control Delay (s)	7.8	-	-	52.3	53.7	19	9.2	-	-
HCM Lane LOS	A	-	-	F	F	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.5	2.1	2.1	0.8	-	-

SOUTHWEST CARSON CITY CIRCULATION STUDY

Carson City Regional Transportation Commission (RTC)

July 8, 2020

Overall Study Goals

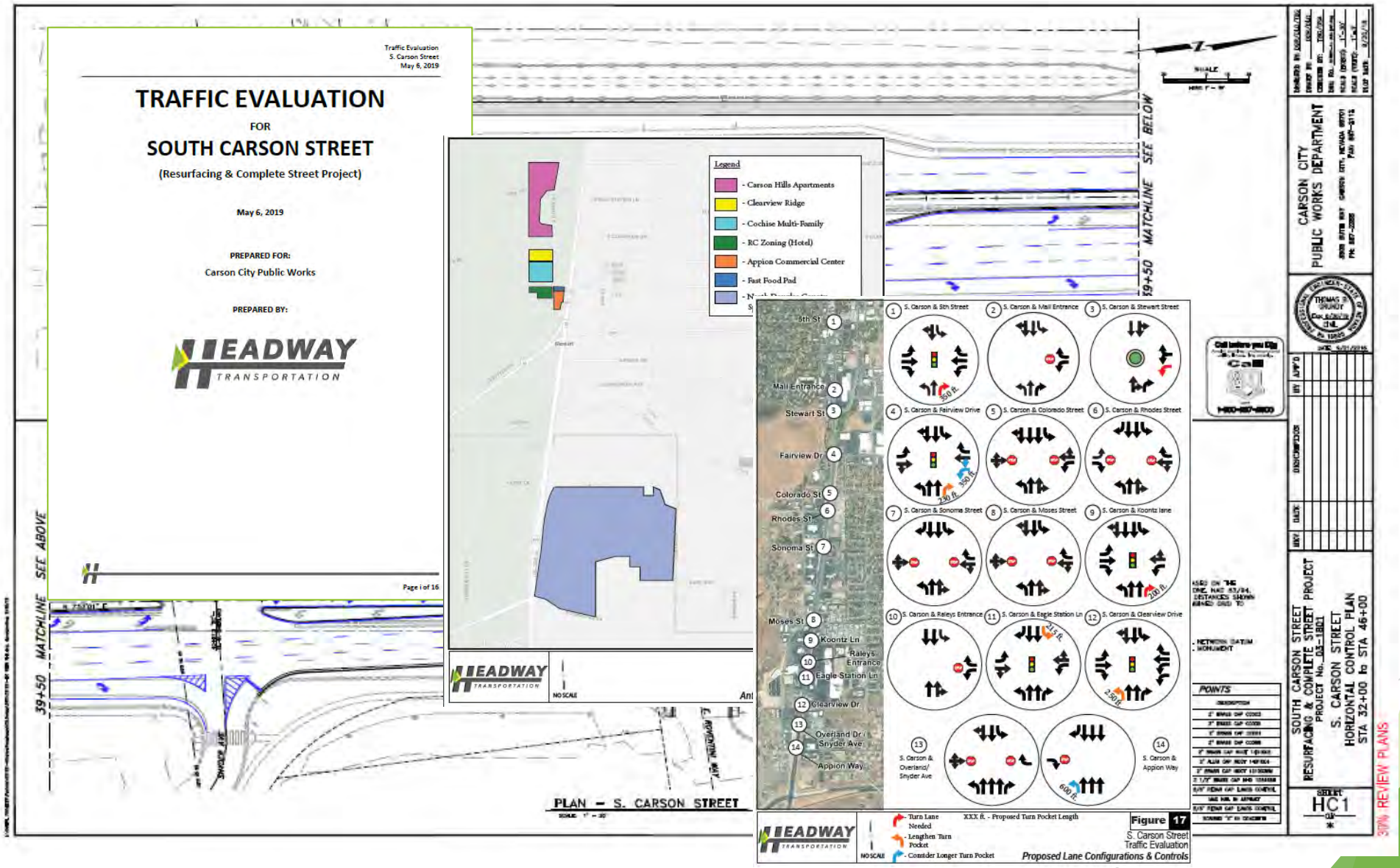
- Evaluate long-term traffic circulation including evaluating alignment options and potential roadway improvements in Southwest Carson City
- Identify improvements that will enhance overall circulation, redevelopment, and business vitality

Cochise Street/ S. Curry Street Parallel Route

S. Roop Street/ Silver Sage Drive Parallel Route

Appion Way /Snyder Avenue Alternatives Analysis

Background and Previous Studies



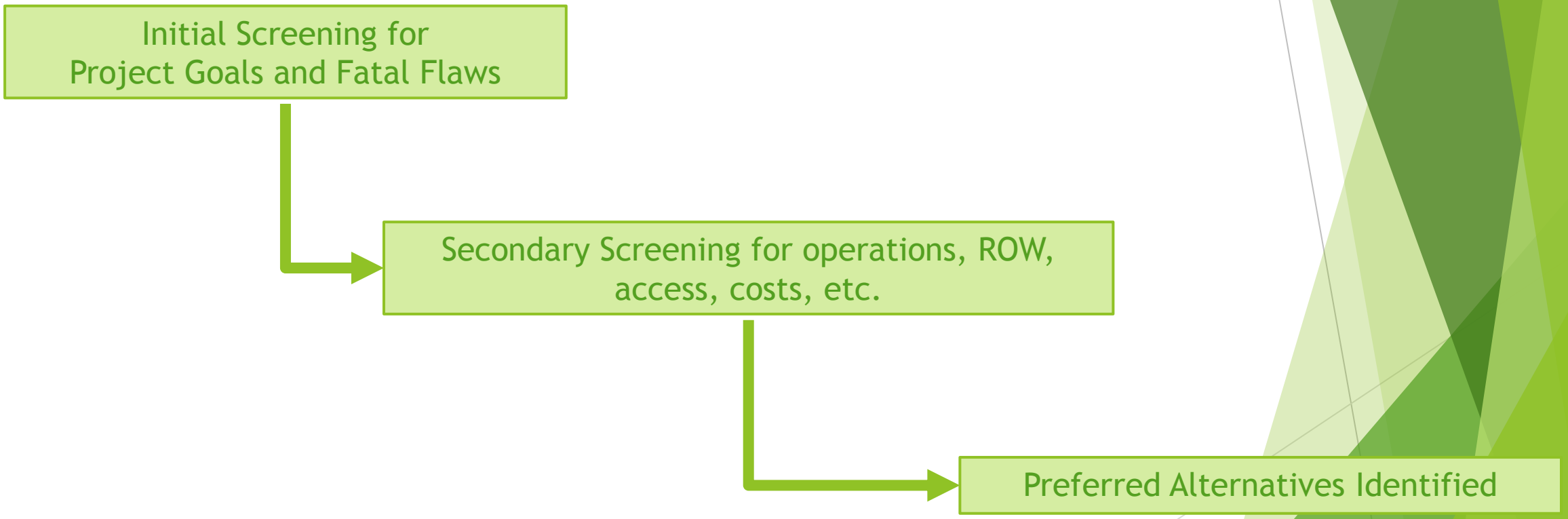
Appion/Snyder Alternatives Analysis

Goals:

- Emergency response
- New signalized crossing
- Improve left turns
- Access for W. Appion Way
- Access for properties on the east side of S. Carson Street

Snyder/Appion Alternatives Analysis Process

Three step process to review and screen alternatives:



Snyder/Appion Alternatives Recommendation

Two Preferred Alternatives were recommended, both providing a full movement signal at W. Appion Way

Table 1. Initial Screening

	Potential Options	Project Goals	Fatal Flaws Identified	Potential Issues	Move forward to Prelim Concepts?
1	Signalize Snyder/Overland at current location	1,2,5	No	Potential operational issue with proximity to Clearview	Yes
2	Signalize W. Appion with a connection to the east side	1,2,3,4, 5	No	Potential property impacts and/or high costs	Yes
3	Signalize W. Appion, add right turn lane to east side	4,5	No	Does not provide a signalized crossing or improve emergency response	Yes
4	Route traffic via Oak to Clearview	1,5	No	Indirect route and roadway improvements required	Yes
5	Provide U-turns at Clearview and Appion	1,3	No	Potentially does not provide enough benefit	Yes
6	Signalize T-intersections at Snyder/Overland and at W. Appion with merging lefts	1,3,4,5	Yes	**Fatal Flaw identified - merge lengths do not meet AASHTO standards.**	No
7	Connect Roland to S. Carson and signalize	1	No	Intersection spacing too close to interchange, expected high costs	No
8	Align Snyder Avenue with Silver Sage or California		No	Indirect route and roadway improvements required	No
9	Provide a U-turn between Snyder and Clearview	1	Yes	**Fatal Flaw Identified: Does not fit geometrically**	No
10	Construct a roundabout at Snyder and/or W Appion	1,3	Yes	**Fatal Flaw identified: Volumes, roadway class and speed are not appropriate for a roundabout**	No
11	Construct an emergency access signal at Snyder/ Carson	1	No	Could potentially be considered in addition to other options	No

Table 3: Preliminary Concepts Screening

	Preliminary Concepts	Preliminary Alignment*	Criteria										Results	
			Project Goals	Network Traffic Operations Improvement	Network Traffic Safety Improvements	ROW Impacts	Access Improvements	Causes Additional Roadway Modifications	Estimated Construction Costs	Possible Opportunity for Private Partnership	Meets Design Standards	Identified Fatal Flaws	Move forward to Final Alternatives ?	Reason
1	Signalize Snyder/Overland at current location		3/5 goals 2/2 primary goals	Moderate	Moderate	Low	Moderate	No	Low	Yes	Yes	No	No	Does not meet enough goals, signal spacing to Clearview too close.
2a	Signalize W. Appion with a connection to the east side: Via frontage road		5/5 goals 2/2 primary goals	Significant	Significant	Medium	Significant	No	High	Yes	No	No	Yes	Met all project goals with less impacts than similar concepts
2b	Signalize W. Appion with a connection to the east side: Via Roland/ frontage road		5/5 goals 2/2 primary goals	Moderate	Significant	High	Moderate	Yes	High	Yes	Yes	No	No	High ROW and costs with only moderate improvement to access
2c	Signalize W. Appion with a connection to the east side: Via an "S-curve" through the bowling alley		5/5 goals 2/2 primary goals	Significant	Significant	High	Significant	No	Medium	Yes	Yes	No	Only feasible if constructed by property owner	Significant property impacts
2d	Signalize W. Appion with a connection to the east side: Alignment between bowling alley and apartments		5/5 goals 2/2 primary goals	Significant	Significant	High	Significant	No	High	No	Yes	No	No	Significant property impacts
2e	Signalize W. Appion with a connection to the east side: via frontage road with a mini-roundabout		5/5 goals 2/2 primary goals	Significant	Moderate	Medium	Significant	No	High	Yes	No	No	Yes	Met all project goals with less impacts than similar concepts
3	Signalize W. Appion, add right turn lane to east side		2/5 goals 0/2 primary goals	Moderate	Moderate	Low	Moderate	No	Medium	Yes	Yes	No	No	Does not meet enough project goals.
4	Route traffic via Oak to Clearview		2/5 goals 1/2 primary goals	Minimal/ None	Minimal/ None	Low	Minimal/ None	Yes	Not determined	No	Yes	No	No	Does not meet enough project goals. Does not provide operational, access, or network safety improvements.
5	Provide U-turns at Clearview and Appion		2/5 goals 1/2 primary goals	Minimal/ None	Minimal/ None	Low	Minimal/ None	No	Low	No	Yes	No	No	Does not meet enough project goals. Does not provide operational, access, or network safety improvements.

ASSOCIATED IMPROVEMENTS	COST
TRAFFIC SIGNAL	$ 500,000
INTERCONNECT TO CLEARVIEW	$ 150,000
SNYDER / S. CARSON/FRONTAGE DEMOLITION	$ 300,000
RIGHT TURN LANE TO FRONTAGE	$ 350,000
SNYDER / FRONTAGE IMPROVEMENTS	$ 750,000
MOUNTAIN VIEW VILLAGE APARTMENTS DRIVEWAY	$ 100,000
APPION / S. CARSON MODIFICATIONS	$ 300,000
ROADWAY / INTERSECTION STRIPING	$ 50,000
TOTAL	$2,400,000

EASEMENTS/PROCUREMENT OF PROPERTY REQUIRED FOR THIS OPTION:

SOUTHWEST CARSON CITY CIRCULATION STUDY
SNYDER AVE AND APPION WAY ALTERNATIVES
PREPARED FOR CARSON CITY

HEADWAY TRANSPORTATION

ALTERNATIVE 2a:
CONNECT SNYDER W APPION AND SIGNALIZE

Figure 1:
Alternative 2a

ASSOCIATED IMPROVEMENTS | COST
SIGNAL AND MINI- ROUND ABOUT WITH REALIGNMENTS | $2.5M - $3.0M

EASEMENTS/PROCUREMENT OF PROPERTY REQUIRED FOR THIS OPTION.

SOUTHWEST CARSON CITY CIRCULATION STUDY
SNYDER AVE AND APPION WAY ALTERNATIVES

PREPARED FOR: CARSON CITY

HEADWAY TRANSPORTATION

5630 Longley Lane, Suite B
Reno, NV 89511
(775) 322-4300

ALTERNATIVE 2e: SIGNALIZE APPION/ S. CARSON WITH MINI-ROUNDABOUT

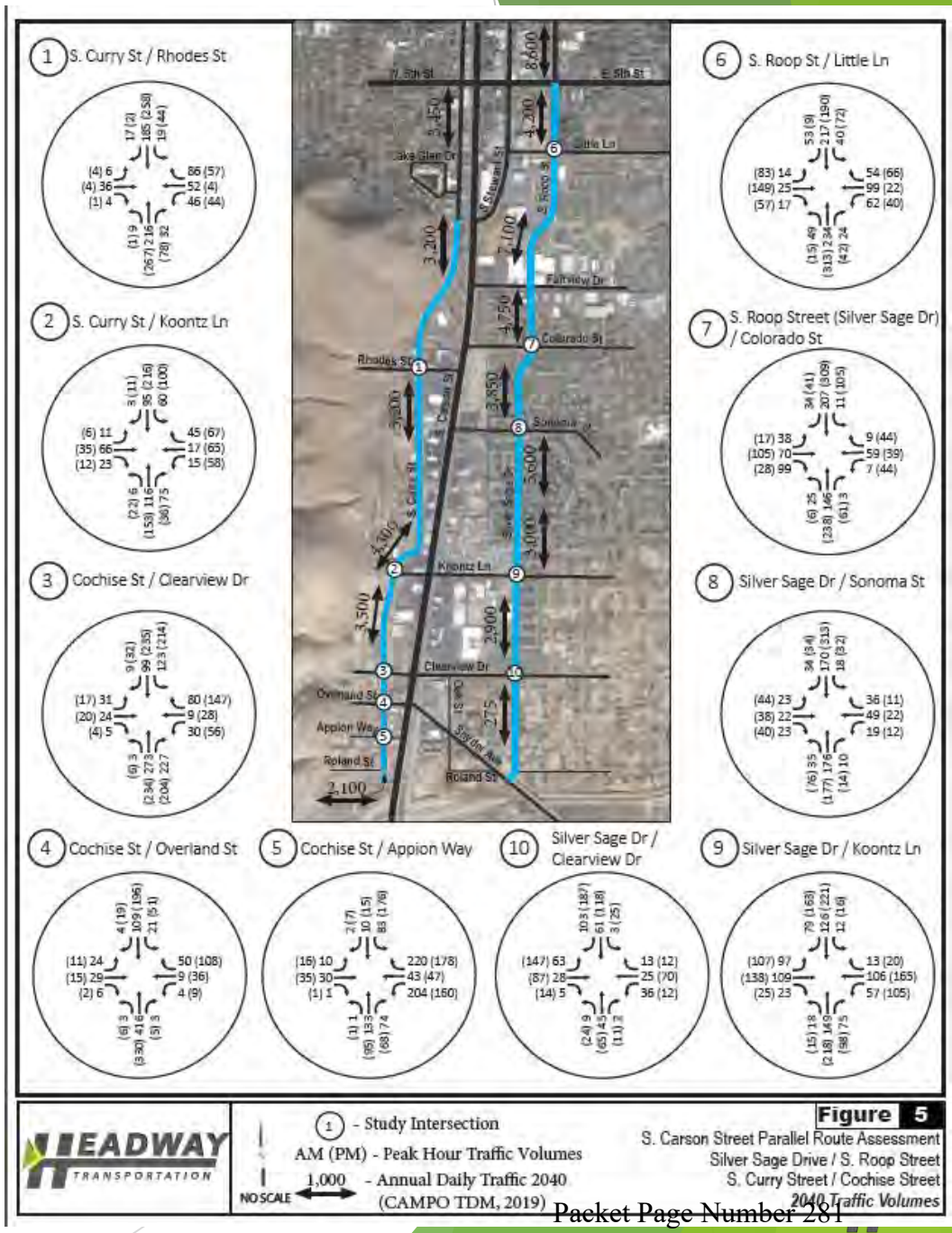
Project No. [illegible]

Date: February 20, 2020

Figure 2: Alternative 2e

Cochise Street/ S. Curry Street
S. Roop Street/ Silver Sage Drive
Parallel Route Analysis

- Purpose is to assess the current and future operations on these routes and identify and mitigate any capacity issues at key intersections.
- Key intersections include:
  - S. Curry Street/ Rhodes Street
  - S. Curry Street/ Koontz Lane
  - Cochise Street/ Clearview Drive
  - Cochise Street/ Overland Street
  - Cochise Street/ W. Appion Way
  - S. Roop Street/ Little Lane
  - Silver Sage Drive/ Colorado Street
  - Silver Sage Drive/ Sonoma Street
  - Silver Sage Drive/ Koontz Lane
  - Silver Sage Drive/ Clearview Drive

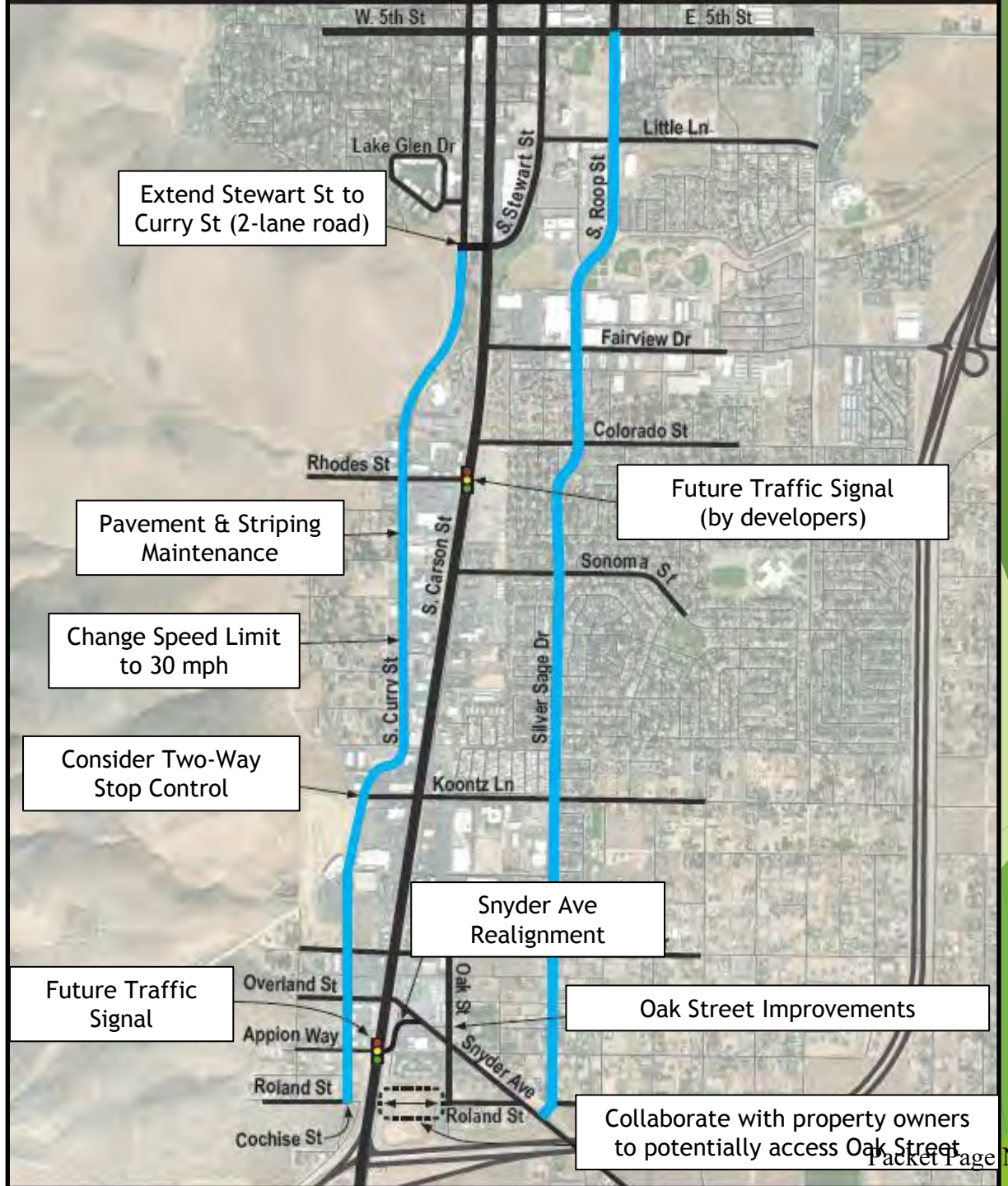


Parallel Route Findings

- Both parallel routes have adequate capacity based on known projects
- Level-of-Service is within policy thresholds for 2040
- Cochise St/Curry St is more commercial
- Silver Sage Dr/Roop St is more residential
- Links between Curry St and Carson St benefit circulation and access

Parallel Routes/ Circulation Recommendations

- In addition to these projects, continue to improve bicycle and pedestrian facilities in accordance with other Master Plans



QUESTIONS?

STAFF REPORT

Report To: The Carson City Regional Transportation Commission (RTC)

Meeting Date: July 8, 2020

Staff Contact: Kelly Norman, Transportation Planner/Analyst

Agenda Title: For Information Only – Presentation and discussion of the draft Carson City Safe Routes to School Master Plan.

Staff Summary: Carson City Public Works contracted with Headway Transportation and Alta Planning and Design to develop Carson City's Safe Routes to School Master Plan with input from the Carson City School District and the Carson City Sheriff's Office. The Safe Routes to School Master Plan focuses on encouraging walking & biking to school by improving the safety of students within a 1-mile radius of the six elementary schools and two middle schools in Carson City. The project team will provide a presentation on the draft Safe Routes to School Master Plan and solicit comment. The draft Safe Routes to School Master Plan will be presented to the Carson City School Board Members on July 14th, 2020, and the final Carson City Safe Routes to School Master Plan will be presented to the RTC for approval at the August 2020 Meeting.

Agenda Action: Other/Presentation **Time Requested:** 10 minutes

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Proposed Motion
N/A

Background/Issues & Analysis
The Carson City Safe Routes to School Master Plan provides recommendations to improve safety for students walking and biking within one mile of the six public elementary schools and two public middle schools in Carson City. A secondary goal of the plan is to increase bus ridership by improving safety at school bus stops. Recommendations of the plan were developed based on school site observations, industry best practices, and an analysis of existing crash and vehicle speed data. Input was incorporated from parent surveys, middle school student surveys, and from consulting with Carson City Public Works, Sheriff's Office, and School District, to create a holistic set of recommendations.

The Plan is intended to improve traffic safety and air quality around school areas, while addressing childhood obesity and public health issues through education, encouragement, increased law enforcement, engagement, and engineering. Safe Routes to School efforts are led by partnerships among municipalities, school districts, community members, parent volunteers, and law enforcement agencies. As a result, the projects and programs are designed to make walking and bicycling for the school commute safer and more desirable. This Plan lays out a clear vision for improving walking and biking to school for years to come while being adaptive to future school boundary changes.

This Plan includes a p rioritized list of infrastructure improvements around schools and programmatic recommendations for Carson City and the Carson City School District that can help improve the safety of school-aged children and their families as they travel to and from school. These infrastructure improvements will be included in CAMPO's 2050 Regional Transportation Plan.

Applicable Statute, Code, Policy, Rule or Regulation
NRS Chapter 338

Financial Information
Is there a fiscal impact? ☐ Yes ☒ No

If yes, account name/number: Regional Transportation Commission fund, Safe Routes to School Operating Supplies account / 2503040-500625; Project G304017001, Contractual.

Is it currently budgeted? ☐ Yes ☒ No

Explanation of Fiscal Impact: There is no fiscal impact associated with this agenda item. The Safe Routes to School program is reimbursable at a rate of 95% with a required 5% in-kind match requirement. Development of the Safe Routes to School Master Plan is budgeted and Contract 1819-181 for development of the Plan was approved at the August 2019 Regional Transportation Commission meeting.

Supporting Material
-Exhibit-1: Draft Carson City Safe Routes to School Master Plan
-Exhibit-2: Presentation of Carson City Safe Routes to School Master Plan

Item 6-D

Exhibit-1: Draft Carson City Safe Routes to School Master Plan

Printed as separate document and available online here:

- Draft Carson City Safe Routes to School Master Plan - Part 1
  - https://www.carson.org/home/showdocument?id=71662
- Safe Routes to School Master Plan – Part 2 Appendixes
  - https://www.carson.org/home/showdocument?id=71664

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Carson City Safe Routes to School Draft Master Plan

July 8, 2020

Plan Overview

Study Elementary Schools

- Bordewich-Bray (BBES)
- Empire (EES)
- Fritsch (FrES)
- Fremont (FES)
- Mark Twain (MTES)
- Seeliger (SES)

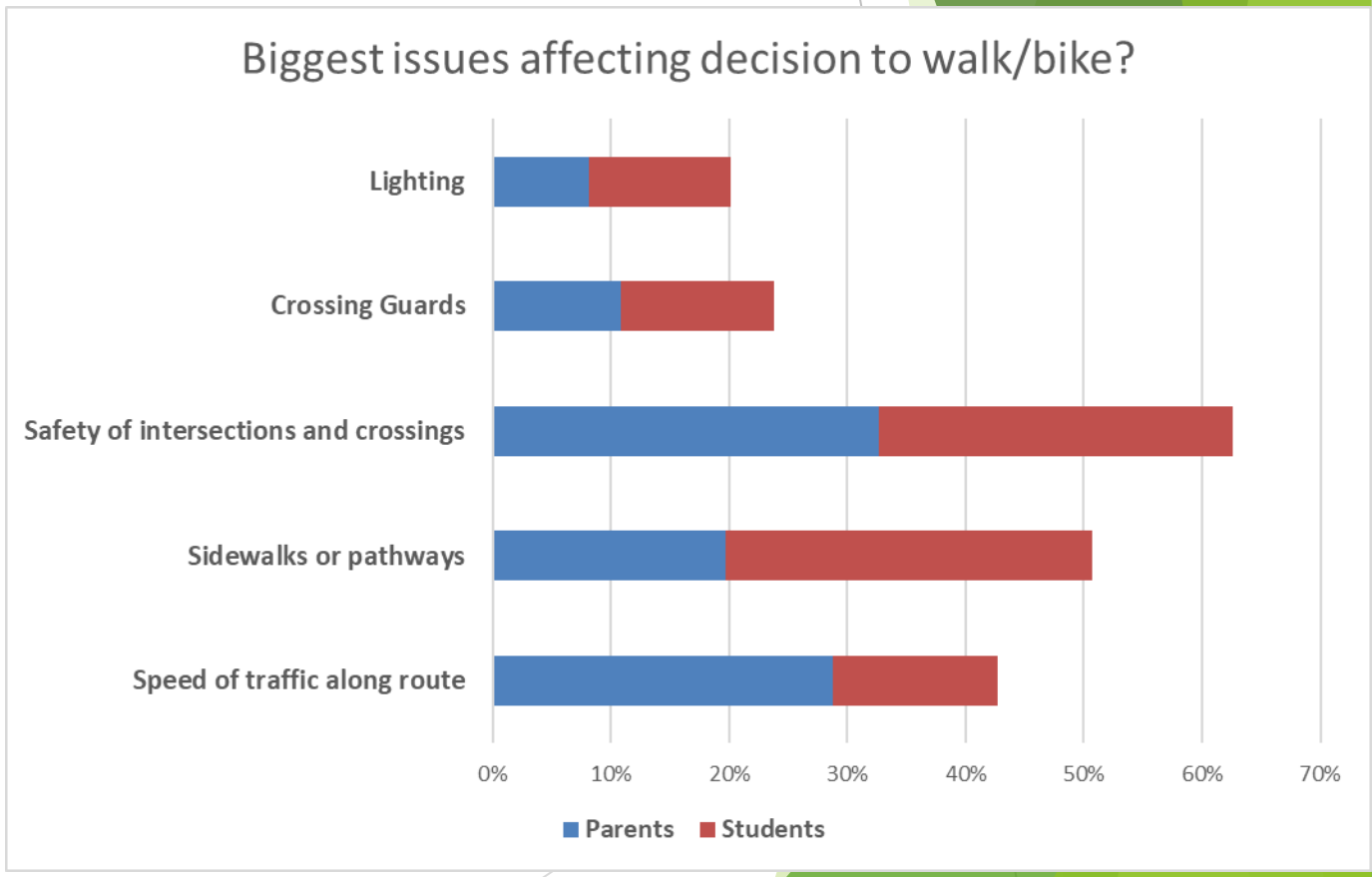
Study Middle Schools

- Carson (CMS)
- Eagle Valley (EVMS)

- Where this plan fits in the planning process
  - Inform Regional Transportation Plan (In-process)
  - Improve walking & biking for all users
- Goal: Develop Safe Routes to School Plan which focuses on improving walking & bicycling safety within 1-mile radius of all public elementary schools & middle schools in Carson City
  - Expanded to include bus stop locations
- Safe Routes to School Planning
  - Six E's
    - Engineering
    - Education
    - Encouragement
    - Engagement
    - Equity
    - Evaluation

Plan Development

- Meetings with school principals & staff
- Project team observed walking & biking to observe conflicts
  - In-person & Aerial Drone
- Analyzed relevant data
  - Crash data & vehicle speed data
  - Bus routes & bus stop locations
- Parent & Student surveys
  - Both agree on the three major focus areas
    - Improve safety of intersections & crossings
    - Improve sidewalks & pathways
    - Reduce traffic speeds along routes to school



Plan Development

- Analyze walking & biking network within 1 mile of each school
- Identify major walking & biking destinations
- Focus on primary walking & biking routes
  - Work outward from school campus
- Address focus areas & specific safety issues
- Reduce walking & biking distances where possible
- Improve access to and awareness of school bus stops

Recommendations: Engineering

- Tier 1 – Quick Wins
  - Low-cost projects across all schools with immediate benefits to be implemented rapidly
- Tier 2 – SRTS Core Projects
  - Projects to improve walking & biking at all schools over the next 20 years
- Tier 3 – Aspirational Projects
  - Transformational projects with no defined timeframe for implementation

Recommendations: Engineering

- Tier 1 – Quick Wins
  - 25 Locations - $200,000 Approximate Total Cost
  - Addresses all schools
  - Rapid deployment & minimal cost
  - Includes
    - 14 bus stop improvements
    - 6 traffic operations / safety improvements
    - 5 crosswalk enhancements
    - 1 Rectangular Rapid Flashing Beacon (RRFB)

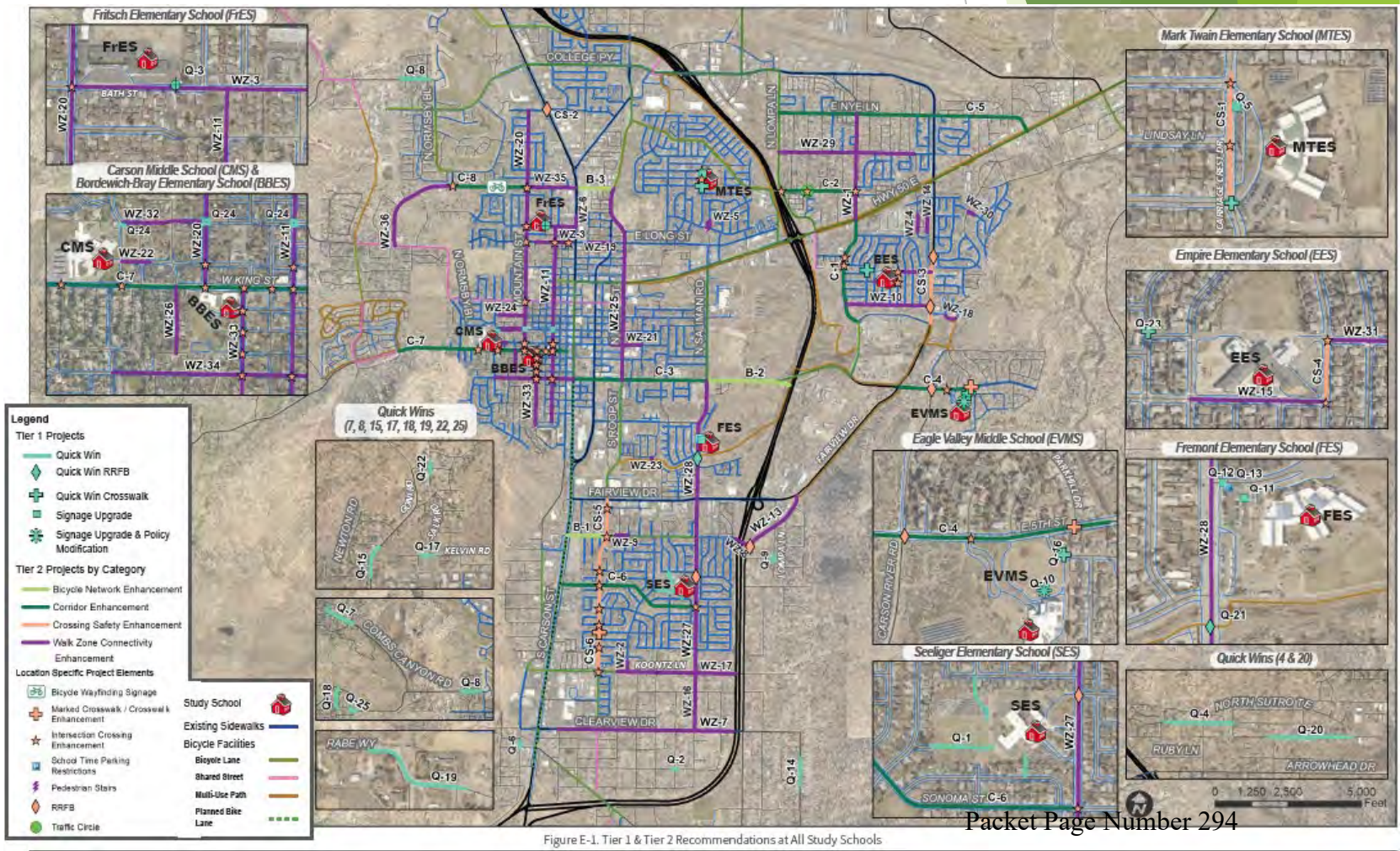


Figure E-1. Tier 1 & Tier 2 Recommendations at All Study Schools

Recommendations: Engineering

- Tier 2 – SRTS Core Projects
  - 54 Locations - $36 Million Approximate Total Cost
  - Address all schools
  - Implemented over 20-years
  - Project Types
    - Bicycle Network Enhancements
    - Crossing Safety Enhancements
    - Walk Zone Connectivity Enhancements
    - Corridor Enhancements

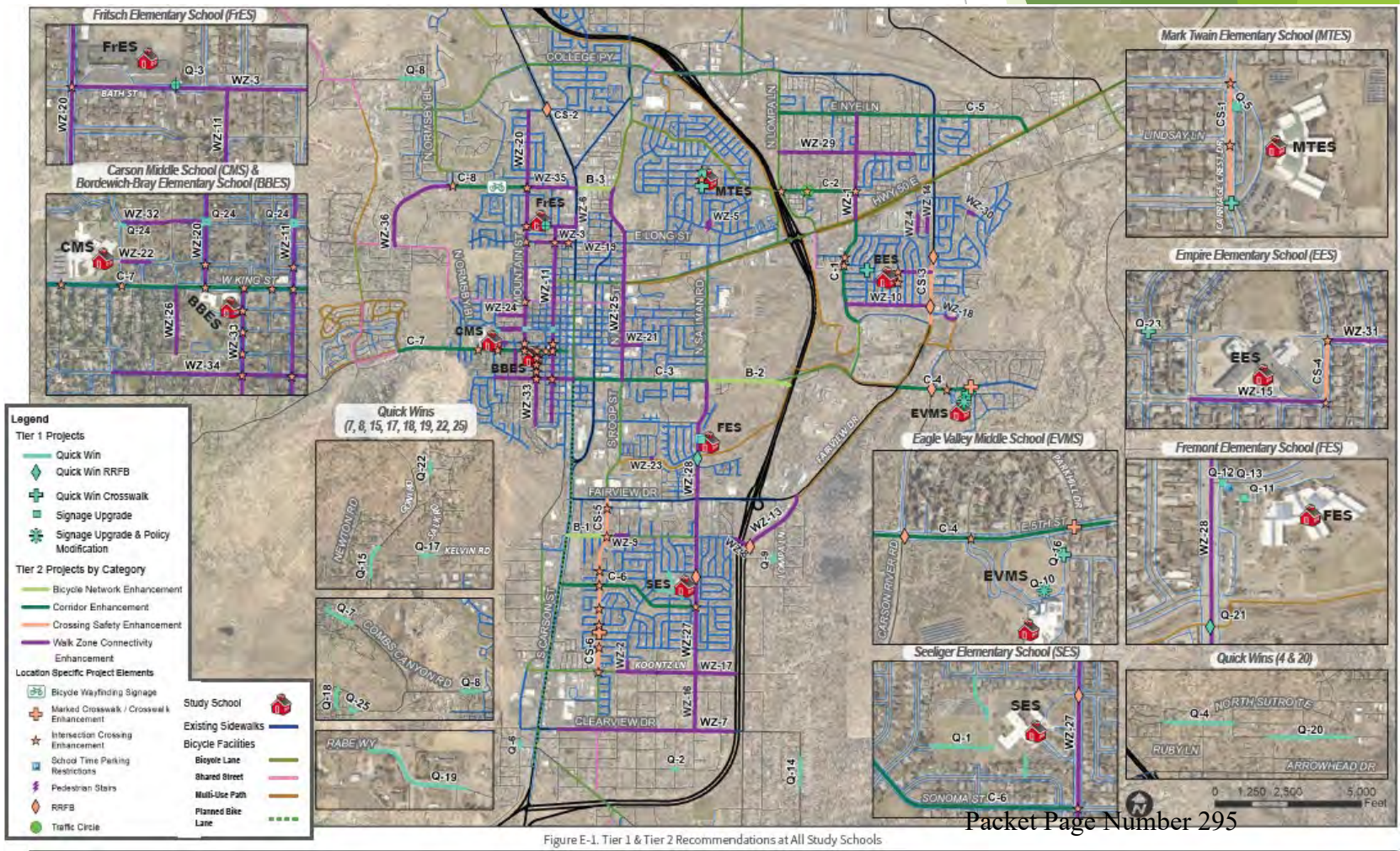


Figure E-1. Tier 1 & Tier 2 Recommendations at All Study Schools

Recommendations: Engineering

- Tier 2 – SRTS Core Projects
  - Prioritization Process
    - Survey Results
    - Known Safety Issues
    - Equity
    - School Proximity
    - Community Facility Proximity
    - Population Density
    - Cost Efficiency
    - Project Efficiencies

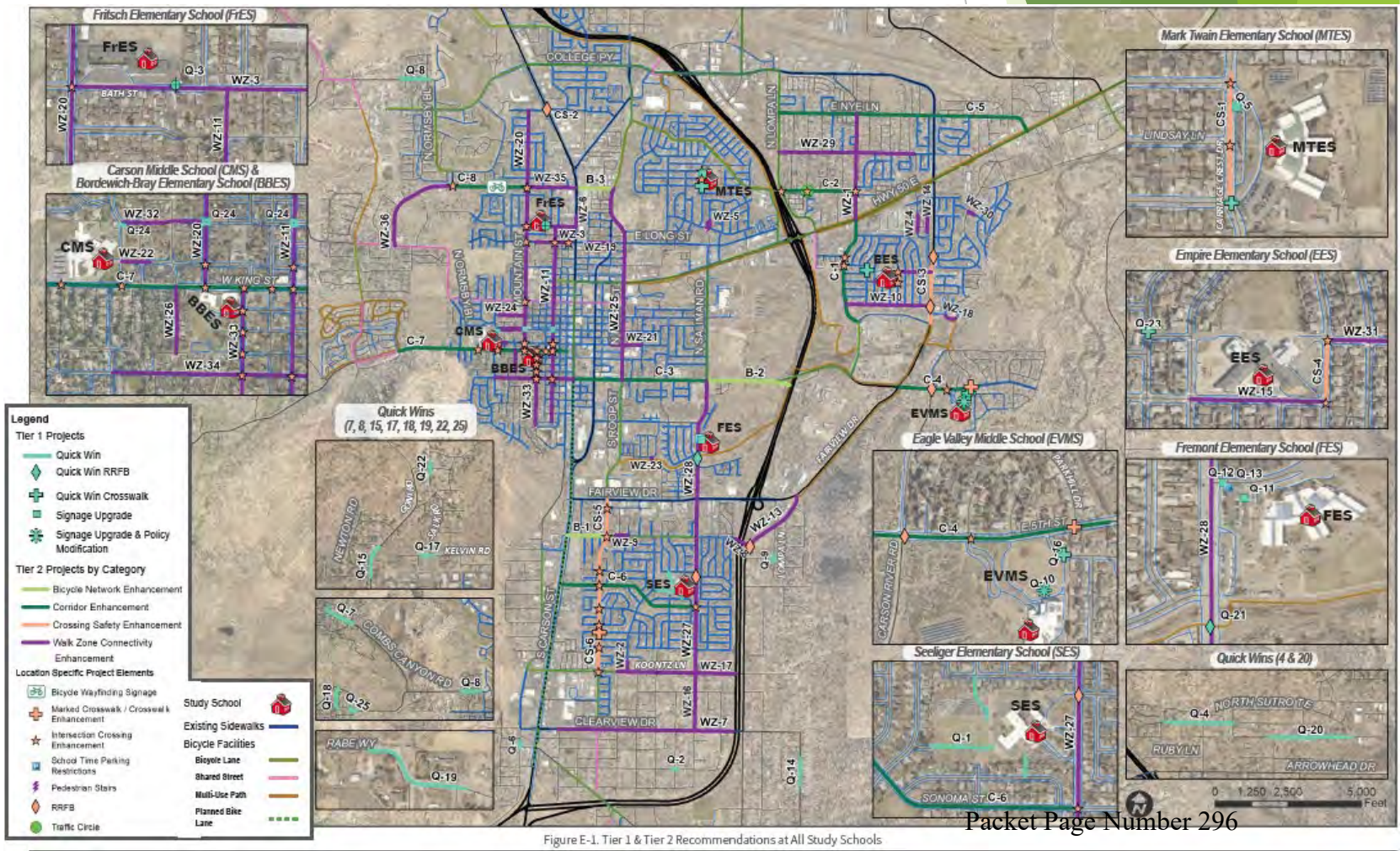


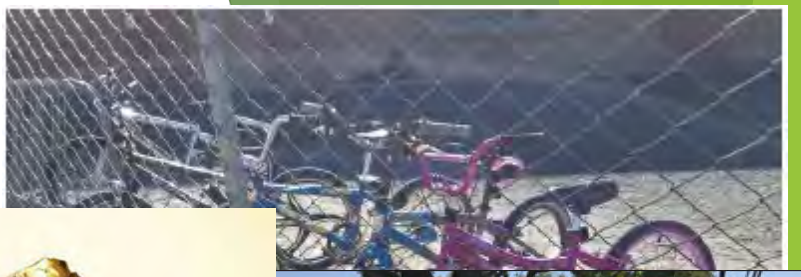
Figure E-1. Tier 1 & Tier 2 Recommendations at All Study Schools

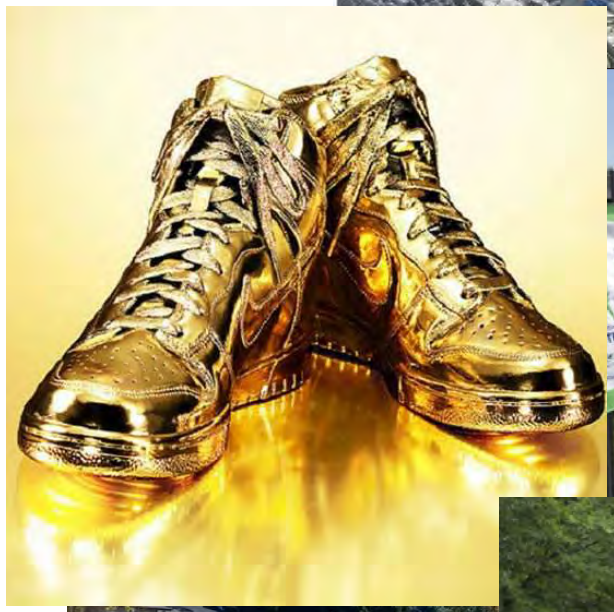
Recommendations: Engineering

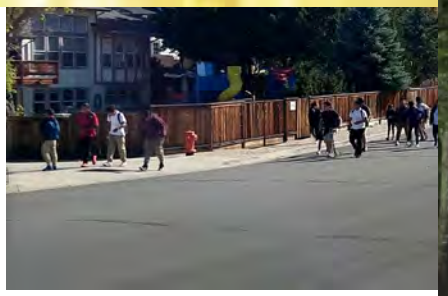
- Tier 3 – Aspirational Projects
  - 26 Locations - $17 Million Approximate Total Cost
  - Ideal network of low-stress bicycle facilities for all schools
  - Focused on “All Ages & Abilities”
  - Innovative Facility types
    - Bike Boulevard, Buffered Bike Lane, Cycle Track, Protected Intersection, etc
  - No defined timeline for implementation
  - Supplemented by “SRTS Infrastructure Design Toolbox”

Recommendations: Programmatic

- Engineering School Safety
  - School Speed Zone Standard & Increased School Bus Stop Awareness
- Education
  - Bolster existing efforts & increase awareness of school safety laws
- Encouragement
  - Fun competitions and activities
- School Zone Engagement
  - Engaging with law enforcement to increase compliance & awareness
- Equity
  - Programs implemented across all schools
  - Included within the prioritization process
- Program Evaluation
  - Track success of implementation with student hand tallies & surveys







Next Steps

- Gather input on draft tonight
- July 14th - Carson City School Board
- Incorporate feedback into a final Master Plan
- Return in August/September

Questions?

Cole Peiffer, AICP

Senior Planner

Headway Transportation, LLC

775-322-4300

STAFF REPORT

Report To: The Carson City Regional Transportation Commission (RTC)

Meeting Date: July 8, 2020

Staff Contact: Dirk Goering, Senior Transportation Planner

Agenda Title: For Information Only – Presentation and discussion of short- and long-term Transportation Projects for the 2050 Regional Transportation Plan (RTP).

Staff Summary: Staff will present a list of transportation projects proposed for CAMPO's 30-year Regional Transportation Plan and solicit comments on included projects or the need for additional projects.

Agenda Action: Other/Presentation **Time Requested:** 10 minutes

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Proposed Motion
N/A

Background/Issues & Analysis
The purpose of the 2050 RTP project list is to identify transportation needs and goals for our regional transportation system. The RTP identifies transportation projects for all modes of travel that may be implemented through 2050. The project list functions as tool for implementing transportation projects that are in line with the community's vision and investment priorities. The proposed list of transportation projects is specific to Carson City and has been developed based on existing transportation plans and anticipated network needs to improve safety, connectivity, efficiencies, and capacity. Requirements for development of an RTP include having a fiscally constrained list of projects that are funded through reasonably anticipated revenue. If all projects cannot be supported by available revenue, a list of unfunded projects can be created to identify projects if funding becomes available.

The list includes four project "buckets", as suggested by staff:

- Bucket 1: Anticipated to be built before 2030 and can be funded with available revenue
- Bucket 2: Preferred to be built before 2030 and cannot be funded with available revenue
- Bucket 3: Anticipated to be built before 2050 and can be funded with available revenue
- Bucket 4: Preferred to be built before 2050 and cannot be funded with available revenue

A five year analysis of the five performance districts has been performed to prioritize transportation projects consistent with the City's Pavement Management Plan. The analysis evaluated roadway sections based on pavement management strategies, functional class, roadway volume, crash history, and work history. The five year list includes more projects than can be funded to allow future flexibility in pairing with other City projects and for finding external funding sources. Prior to identifying annual projects and proceeding to design, each roadway corridor will be evaluated in its respective year to refine scope, coordinate with City projects (utilities, etc.), and to scale projects to fit within available budgets. Prior to design work, staff will obtain approval from the RTC to pursue annual projects.

Staff is requesting input on the project list. Comments will be incorporated and then project estimates will be developed. As presented to CAMPO on June 10, 2020, Carson City RTC is estimated to have approximately $158,244,229 available over 30-years for City transportation projects.

Applicable Statute, Code, Policy, Rule or Regulation
N/A

Financial Information
Is there a fiscal impact? ☐ Yes ☒ No

If yes, account name/number: N/A

Is it currently budgeted? ☐ Yes ☒ No

Explanation of Fiscal Impact: The list of transportation projects does not commit the RTC to the expenditure of funding. CAMPO's 2050 RTP will include anticipated revenue as presented at the June 10, 2020 CAMPO meeting, alongside each jurisdiction's fiscally constrained / unconstrained list of projects. Prior to design work, projects will obtain approval from the RTC to pursue annual projects, following the approved Pavement Management Plan.

Alternatives
N/A

Supporting Material
-Exhibit-1: Proposed Carson City Project List for the 2050 RTP

Agency	Project Name	Project Extent	Project Description	Project Built Before 2030	Project Built Before 2050	Financially Constrained
CC	District 4, Curry Street Circulation and Safety Improvements	Rhodes Street to Fifth Street	Rehabilitate pavement and enhance rural road section to improve circulation and safety	✓		✓
CC	Saliman Road Capacity Improvements	Fairview Drive to Colorado Street	Construct four lane roadway	✓		✓
CC	District 2, William Street Corridor Access Improvements	Carson Street to I-580	Improve vehicle and non-motorized access with corridor beautification	✓		✓
CC	Lompa Lane Extension	Modoc Road to Airport Road	Construct new collector with improved roadway alignment	✓		
CC	Fifth Street Capacity Improvements	Saliman Road to Lompa Ranch Road	Construct four lane roadway and intersection improvements	✓		
CC	Lompa Ranch Road Connector	William Street to Fifth Street	Construct new road to connect William Street to Fifth Street	✓		
CC	Robinson Street Extension	Saliman Road to Lompa Ranch Road Connector	Construct new road connecting Saliman Road to future Lompa Ranch Road	✓		
CC	Hillview Drive Connector	Koontz Lane to Valley View Drive	Construct new road to improve north-south travel		✓	
CC	Appion Way Connector	Cochise Street to Snyder Avenue	Construct controlled intersection to improve east-west access across South Carson Street	✓		
CC	Safe Routes to School Safety Plan Improvements	City wide	Construct Safety Improvements per adopted Plan	✓	✓	✓
CC	Pavement Management Plan District Pavement Preservation Projects	City wide	Pavement Preservation Projects Prioritized Annually	✓		✓
CC	District 3, Fifth Street Rehabilitation and Safety Improvements	Fairview Drive to Eastern Extent	Rehabilitate pavement and incorporate Complete Street Elements	✓		✓
CC	District 4, Center Drive	Snyder Avenue to County Line	Rehabilitate pavement and incorporate Complete Street Elements	✓		
CC	District 4, Colorado Street	Carson Street to Saliman Road	Rehabilitate pavement and incorporate Complete Street Elements	✓		✓
CC	District 5, North Carson Street	William Street to Medical Parkway	Rehabilitate pavement and improve vehicle and non-motorized access with corridor beautification	✓		✓
CC	District 5, Mountain Street	Ivy Street to Fleishmann Way	Rehabilitate pavement and incorporate Complete Street Elements	✓		✓
CC	District 5, Ash Canyon Road	Ormsby Blvd. to Open Space Property	Rehabilitate pavement and incorporate Complete Street Elements	✓		✓
CC	District 5, Winnie Lane	Ormsby Blvd. to Mountain Street	Rehabilitate pavement and incorporate Complete Street Elements	✓		✓
CC	District 1, College Parkway	I 580 to U.S. Hwy 50	Rehabilitate pavement and incorporate Complete Street Elements	✓		✓
CC	District 1, Nye Lane	Carson Street to Hot Springs Road	Rehabilitate pavement and incorporate Complete Street Elements	✓		✓
CC	District 2, Fifth Street	Carson Street to Saliman Road	Rehabilitate pavement and incorporate Complete Street Elements	✓		✓
CC	District 2, Roop Street	Fifth Street to Colorado Street	Rehabilitate pavement and incorporate Complete Street Elements	✓		✓
CC	Roop Street Capacity Improvements	Washington Street to Fifth Street	Construct four lane roadway		✓	
CC	College Parkway Connector	College Parkway to Arrowhead Drive	Construct new road to improve east-west circulation and access		✓	
CC	Stewart Street Extension	South Carson Street to Curry Street	Construct new road connecting Stewart Street to Curry Street	✓		✓
CC	Ormsby Boulevard Connector	Ash Canyon Road to Winnie Lane	Construct new road to improve north-south circulation and access		✓	
DC/CC	Heybourne Road Connection to Carson City	Stephanie Way to Bigelow Drive	Construct new road to improve north-south circulation and access		✓	
CC	Jump Around Carson Transfer Station	Central Carson City	Relocate and Construct Downtown Transfer Station with Amenities	✓		✓
CC	Jump Around Carson North and Southwest Expansion	Jump Around Carson Service Area	Add new northern and southwestern routes to expand service availability and improve travel efficiency	✓		✓
CC	Full interchange I 580/U.S. 50/U.S. 395	Intersection of I 580	Construct full interchange		✓	
LC/CC	U.S. Hwy 50	I 580 to Dayton	Corridor congestion mitigation improvements	✓		
DC/CC	U.S. Hwy 395	I 580 to Johnson Lane	Corridor congestion mitigation improvements	✓		
CC	South Carson Multi Use Path Connector	Edmonds Sports Complex to western connection	Design and construct a multi use path connecting Edmonds Sports Complex to paths on the west side of Carson City		✓	

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STAFF REPORT

Report To: The Carson City Regional Transportation Commission (RTC)

Meeting Date: July 8, 2020

Staff Contact: Lucia Maloney, Transportation Manager

Agenda Title: For Information Only – Presentation and discussion of the recently re-designated School Zones within Carson City, and resulting updates to the Speed Limit Policy establishing guidelines for school zone signage posted within designated Carson City School Zones.

Staff Summary: Staff will present information related to the Speed Limit Policy and how that policy is being implemented.

Agenda Action: Other/Presentation **Time Requested:** 10 minutes

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Proposed Motion
N/A

Background/Issues & Analysis
The Carson City Board of Supervisors, at their June 4, 2020 meeting, adopted Resolution 2020-R-14 to designate school zones throughout Carson City. School zone designations in Carson City had not been previously revised since 1992. Since 1992, travel behavior and development patterns around Carson City schools have changed, one school has closed, and best practices for establishment of school zones have evolved. Resolution 2020-R-14 and a map of the designated school zones are provided as exhibits to this staff report.

Accordingly, it is necessary to erect consistent and enforceable roadway signage in designated school zones in advance of the 2020/2021 school year. The recently implemented Speed Limit Policy, Section 6.5: Special Speed Zones, was revised to clarify standard speed limit signage protocols for School Zones throughout Carson City. Implementation of this signage will result in consistent speed zone signage of times/days, facilitating increased safety of Carson City's school-aged children through improved information for drivers and enforceability by Carson City Sheriff's Office. Both the Carson City School District and the Carson City Sheriff's Office are supportive of the policy's direction.

Applicable Statute, Code, Policy, Rule or Regulation
NRS Chapter 269; NRS Chapter 484B; CCMC Title 10

Financial Information
Is there a fiscal impact? ☐ Yes ☒ No

If yes, account name/number: N/A

Is it currently budgeted? ☐ Yes ☐ No

Explanation of Fiscal Impact:

Alternatives
N/A

Supporting Material
-Exhibit-1: Carson City Public Works Speed Limit Policy Revised June 2020
-Exhibit-2: Resolution 2020-R-14
-Exhibit-3: 2020 School Zone Designation Map

Carson City Public Works
Speed Limit Policy and Procedure
Effective date: April 28, 2020
Updated: June 23, 2020

1.0 Purpose:

The purpose of this policy is to set forth guidelines for establishing and reviewing speed limits on new and existing roadways within Carson City, Nevada.

2.0 Organizations Affected:

This policy is to be used by the Carson City Public Works Department.

3.0 References:

A Policy on Geometric Design of Highways and Streets; AASHTO (2011)
Manual on Uniform Traffic Control Devices (MUTCD); FHWA (2009)
Methods and Practices for Setting Speed Limits: An Informational Report; FHWA (2012)
Speed Concepts: Informational Guide; FHWA (2009)
California Manual for Setting Speed Limits; Caltrans (2019)
NCHRP Report 504 - Design Speed, Operating Speed, and Posted Speed Practices; TRB (2003)
NCHRP Report 855 – An Expanded Functional Classifications System for Highways and Streets; TRB (2018)
Traffic Operations Process Memorandum 2018-01 Operations and Safety Study Process; NDOT (2018)
Access Management Systems and Standards; NDOT (2017)

4.0 Definitions:

AASHTO – American Association of State Highway Transportation Officials
Design Speed – The speed used to determine various geometric design features of the roadway.
FHWA – Federal Highway Administration
85th Percentile Speed – The speed at or below which 85 percent of the traffic is moving, also referred to as Vehicle Operating Speed.
GPS – Global Positing System
GIS – Geographic Information System

Inferred Design Speed – The maximum speed for which all critical design/speed related criteria are met. May be higher or lower than the design speed.

k-value – An abbreviation for the rate of vertical curvature

MUTCD – Manual of Uniform Traffic Control Devices

NCHRP – National Cooperative Highway Research Program

NDOT – Nevada Department of Transportation

TRB – Transportation Research Board

Speed Limit – The maximum lawful speed, either posted or by statue for a specific road.

Vehicle Pace – An indication of the dispersion of speed. The ten mile per hour range of speeds containing the greatest number of observed speeds based on field measurements.

5.0 Summary of Nevada Law and City Code:

NRS 269.195 – Power to regulate vehicular traffic; ordinances; posting informational signs and other devices at school zones and school crossing zones.

1. *Except as otherwise provided in NRS 707.375, in addition to the powers and jurisdiction conferred upon the town boards or boards of county commissioners by this chapter, such boards may: (b) Regulate the speed, parking, stopping, turning and operation of all motor vehicles and other vehicles using the streets and alleys.*

NRS 484B.600 – Basic rule; additional penalties for violation committed in work zone or pedestrian safety zone or if driver is proximate cause of collision with pedestrian or person riding bicycle, electric bicycle or electric scooter; discretion of court to reduce violation in certain circumstances; maximum fine.

1. *It is unlawful for any person to drive or operate a vehicle of any kind or character at:*
   (a) A rate of speed greater than is reasonable or proper, having due regard for the traffic, surface and width of the highway, the weather and other highway conditions.
   (b) Such a rate of speed as to endanger the life, limb or property of any person.
   (c) A rate of speed greater than that posted by a public authority for the particular portion of highway being traversed.

NRS 484B.363 – School zone or school crossing zone: Speed limit; designation; signs; U-turn and overtaking another vehicle prohibited; determination of hours in which speed limit is in effect; additional penalty if driver is proximate cause of collision with pedestrian or person riding bicycle, electric bicycle or electric scooter.

1. A person shall not drive a motor vehicle at a speed in excess of 15 miles per hour in an area designated as a school zone except:

(a) On a day on which school is not in session;

(b) During the period from a half hour after school is no longer in operation to a half hour before school is next in operation;

(c) If the zone is designated by an operational speed limit beacon, during the hours when the pupils of the school are in class and the yellow lights of the speed limit beacon are not flashing in the manner which indicates that the speed limit is in effect; or

(d) If the zone is not designated by an operational speed limit beacon, during the times when the sign designating the school zone indicates that the speed limit is not in effect.

5. The governing body of a local government or the Department of Transportation shall designate school zones and school crossing zones. An area must not be designated as a school zone if imposing a speed limit of 15 miles per hour would be unsafe because of higher speed limits in adjoining areas.

6. Each such governing body and the Department shall provide signs to mark the beginning and end of each school zone and school crossing zone which it respectively designates. Each sign marking the beginning of such a zone must include a designation of the hours when the speed limit is in effect or that the speed limit is in effect when children are present.

(Refer to NRS for full text of NRS 484B.363.)

Carson City Code 10.20.010 – Basic Rule

It is unlawful for any person to drive or operate a vehicle of any kind or character at:

1. *A rate of speed greater than is reasonable or proper, having due regard for the traffic, surface and width of the highway; or*
2. *Such a rate of speed as to endanger the life, limb or property of any person; or*
3. *A speed in excess of twenty-five (25) miles per hour on or through the highways of Carson City; provided, however, that it shall be unlawful to operate any truck or motor vehicle of a rated load capacity of one and one-half (1.5) tons, or more, upon the streets and alleys of Carson City at a speed in excess of fifteen (15) miles per hour;*
4. *It is unlawful for any person to drive or operate a vehicle of any kind or character at a speed greater than twenty-five (25) miles per hour, on or through the highways of Carson City, unless any such highways are otherwise specifically ordered to be posted*

at speeds other than twenty-five (25) miles per hour by the public works director, based on a complete engineering and traffic survey for speed zoning.

5. *A rate of speed greater than that posted by a public authority for the particular portion of highway being traveled in Carson City.*

6.0 Policy and Procedures:

6.1 Background:

The establishment of Speed Limits is often a balance between safety and mobility. The establishment of speed limits requires a rational approach to maintain the confidence of the public. By using a uniform procedure, Carson City can set speed limits that are safe and consistent. The processes outlined by this policy are based on NCHRP and FHWA guidance.

Speed limits are set to inform motorists of appropriate driving speed and to advise them about the maximum reasonable and safe operating speed under favorable conditions. Speeds less than the posted speed limit are expected under certain circumstances such as in conditions of poor visibility, adverse weather, congestion, traffic control warning signs, or the presence of high volumes of bicyclists and pedestrians. Methodologies for setting speed limits are designed to result in recommended speeds that:

- Are related to a crash risk;
- Provide a reasonable basis for enforcement;
- Are fair in the context of traffic law; and
- Are accepted as reasonable by a majority of road users.

Vehicle speeds are selected by individual drivers. Drivers tend to drive at speeds based on the visual scene presented to them. Factors that affect speeds along roadways, and also influence the speed selected by motorists, include:

- Crash frequency and severity;
- Pavement conditions;
- Traffic volume: vehicles, trucks, pedestrians, and bicycles;
- Roadway design elements, including:
  - Road function/classification/purpose;
  - Lane and shoulder width;
  - Horizontal and vertical curves;
  - Roadside characteristics;
  - Slopes and grade;
  - Sight distances;

    - Driveways with restricted visibility;
    - Driveway density and spacing;
    - Rural vs. Urban areas;
- Weather and visibility;
- A vehicle's mechanical condition and characteristics; and
- Driving ability/capabilities.

Each of these factors should be considered when establishing and reviewing the speed of a roadway. Additionally, considering future and anticipated development may avoid multiple changes to the speed limit on a given segment of roadway.

There is no specific rule or national guidance that outlines the selection of factors that affect the establishment of a speed limit. Different methods result in different recommended speed limits. The results of the different methods can also be interpreted differently by individuals and professionals. The methods outlined in this policy as well as the engineering judgement by qualified Carson City staff will be used as the basis to establish and review speeds within Carson City.

6.2 Establishing Speed Limits:

Speed limits along new roadways shall be based on the design speed. The design speed is used to determine the various geometric design features of the roadway. Selection of the design speed shall be done using an engineering analysis and include a review of the functional classification and anticipated road and traffic characteristics for the proposed roadway.

When selecting a design speed, the target operating speed and factors described in Section 6.1 above shall be evaluated. The design speed selected should be consistent with the highest speeds drivers may be reasonably expected to travel on a particular facility (i.e. inclusive of typical vehicle speeds) based on the design elements and functional classification.

Maximum design speeds for different functional classifications shall be as follows:

- Local and Industrial - 30 mph
- Collector streets - 30 mph (urban), 40 mph (rural)
- Arterial streets - 45 mph

Design speeds higher than the maximums listed above shall be selected if the facility is targeted to operate at speeds equal to or greater than the design speed listed because the facility is located in an area with:

- Limited pedestrian and bicycle use;
- No on-street parking;
- No curb and gutter;
- Cross streets spaced at more than 1,320 feet, and
- Driveways spaced at more than 660 feet.

If a design speed of greater than 45 mph is selected, the facility is considered a 'high-speed' facility in accordance with AASHTO and shall be designed to meet those criteria.

The posted speed limit is not the design speed. The posted speed limit is set to represent the average speed (85th percentile speed) most vehicles will typically operate. In most cases, the posted speed limit will be 5 - 10 mph below the design speed for all roadway classifications.

As described earlier, the design speed is used to determine the various geometric design features of the roadway. The AASHTO Green Book recommends using values above the minimum criteria; however, additional research by FHWA indicates that this approach alters the visual perspective of drivers making them more comfortable to travel at higher speeds. Since the design speed is generally above the anticipated posted speed limit, geometric design values selected during the design of a roadway shall be nearest to the maximum or minimum requirements for that design speed, to the extent practicable.

New speed limit signs will be posted with construction of the roadway.

6.3 Review of Existing Speed Limits:

The review and re-evaluation of speed limits may occur on established roadways upon a formal request made to the City, or if the roadway has undergone significant changes since the speed limit was established. A speed study - shall be conducted if there has been:

- Changes to the number of travel lanes;
- Added turning lanes or bicycle lanes;
- Changes to on-street parking or driveway access/spacing;
- Changes in traffic control signalization (including placement of new stop signs or signal timing/coordination);
- Changes in traffic volumes resulting from changes to the surrounding road network or adjacent development; or
- Changes to the severity or frequency of crashes.

- If requested by the Sheriff's office

A speed study is not required for roadways that do not meet the above criteria. If it has been determined that a re-evaluation of the existing speed limits is needed based on the above criteria, the procedure for conducting a speed study and setting a speed limit is as follows:

1) Obtain the Vehicle Operating Speeds, (85th percentile speed and vehicle pace) for the road segment.
    - Vehicle operating speed is measured as a range of 85th percentile speed, or the speeds at which 85 percent of the vehicles operate. The vehicle pace is the ten mile per hour range of speeds containing the greatest number of observed speeds. Both 85th percentile speed and vehicle pace are obtained by conducting spot-speed surveys of free-flowing vehicles at representative locations along the roadway.
    - Review the results of the speed study and compare to the existing posted speed limit. The MUTCD indicates that posted speeds "should be within 5 mph of the 85th percentile speed of free-flowing traffic."
    - The starting point for setting speed limits on all roadways should be based on results of spot speed studies with adjustments made based on vehicle pace and completion of steps 2 through 6, below.
2) Review the geometric design and attempt to determine the design speed, the inferred design speed, or the limiting geometric factors that affect the safety of the roadway.
    - Stopping sight distance, horizontal and vertical geometry, and roadside design are limiting design factors when reviewing a speed limit. If the design speed is not already known, these design factors should be examined to estimate a road's design speed.
    - In some instances, the existing geometric features may have been designed above or below the minimum or maximum design speed values (e.g. a vertical curve having a k-value greater than the required minimum). This is called the inferred design speed. In these cases, the inferred design speed will be different (higher or lower) than the designated design speed of the road.
    - In general, the speed limit should not be posted above a road's designated or inferred design speed.
3) Review the roadway functional classification, access management, and general roadside site characteristics.
    - This includes a review of the number and spacing of driveways and the existing and planned adjacent development.

- The concept is to review the roadway's intended function and how the roadway is meant to operate in its given setting.

4) Review the crash data
    - Evaluate if a change in speed may alter the frequency and severity of crashes based on a review of the most recent available crash data and crash types.
5) Consult with the Carson City Sherriff's Office regarding enforcement.
    - Review if changes to the existing speed limit are reasonably enforceable based on experience and knowledge of the area.
6) Complete the speed study analysis.
    - The roadway's speed limit should be first based on its 85th percentile speed with geometric, safety, and enforcement factors considered and evaluated. The posted speed limit shall be set at the closest 5 mph increment, rounded down. For example:
        i. If the 85th percentile speed for a location was is found to be 37 mph, then the speed limit would be established at 35 mph since it is the closest 5 mph increment to the 37 mph speed.
        ii. If the 85th percentile speed for a location was found to be 33 mph, then the speed limit would be established at 30 mph.
        iii. These speeds may be reduced if justification is provided as part of the engineering study.
    - The speed of the roadway may be set below the 85th percentile speed when geometric or other factors are determined to be a contributing factor as described above, or changes to the character of the roadway are made through the completion of a project. In no case shall the speed limit be set less than 10 mph below the 85th percentile speed.
    - Confirm the existing or set a new speed limit based on the results of the analysis.
    - Speed limits on all roadways, including any changes, shall be approved by the Public Works Director.
    - Upon approval by the Public Works Director that a change is needed, the Transportation Manager will coordinate with streets maintenance staff to replace the sign plaques.
    - When the speed limit is changed on a roadway with approaches to signalized intersections, the clearance interval timing needs to be recalculated and the detection systems may need to be adjusted or modified. Additionally, coordination timing with other signals may need to be adjusted.

6.4 General Considerations:

The procedure and steps outlined in this policy may be altered depending on the nature of the roadways in Carson City. In some cases, the collection of data may be difficult to obtain due to safety concerns, weather conditions, traffic volumes, or the lack of information available for a given segment of road. To the extent practicable, a range of data should be collected at various locations along the roadway to get an accurate representation of the roadway conditions. Locations that differ from normal conditions may be suitable for Special Speed Zones or other advisory speed warning devices.

FHWA has developed a knowledge-based system for recommending speed limits. The tool is called USLIMITS2. This tool may be used to assist in making a speed limit decision, but it is not intended to make the decision on behalf of the engineer or agency.

FHWA research has shown that changes in posted speeds have little effect on operating speeds. A reduction in the speed limit along a roadway facility is not an acceptable method of reducing vehicle speeds.

6.5 Special Speed Zones:

The regulatory speed limit sign (R2-1) shall be used when reducing speeds in Special Speed Zones unless described otherwise below.

6.5.1 School Zones

School zones are areas designated by Carson City to establish a safe route to and from school for schoolchildren. The school zone speed limit shall be 15 mph.

The regulatory speed limit sign (S5-1) shall be used to designate the school zone, denote the speed limit, and list the period when the speed limit is effect for school zones. For Carson City, the designated hours of all school zones shall be consistent. Each S5-1 sign shall either list the hours when the school zone speed limit is in effect, or indicate that the limit is in effect with the use of a flashing speed limit beacon, as determined by the Public Works Director. The standard S5-1 signs for these two cases are shown below.

S5-1 (hours)

S5-1 (When Flashing)

An ‘END SCHOOL ZONE’ S5-2 sign shall be placed to denote the end of each designated school zone and end of the speed zone restriction.

Additional school assembly signs may be used in school zones as described in Chapter 7 of the MUTCD. All school zone signs shall be permanent and shall have florescent yellow-green backing in compliance with the MUTCD.

6.5.2 Work Zones

Speeds may be reduced in work zones when temporary traffic control devises are in use. Speeds may be reduced to up to 10 mph below the posted speed limit. Reductions greater than 10 mph shall be approved by the Public Works Director.

6.5.3 Pedestrian Safety Zones

Pedestrian Safety Zones are defined by NRS 484B.135. This law allows for governing bodies to designate pedestrian safety zones in certain circumstances. In accordance with Section 5 of the NRS, the City may designate a pedestrian safety zone on a highway if it:

(a) Makes findings as to the necessity and appropriateness of a pedestrian safety zone, including, without limitation, any circumstances on or near a highway which make an area of the highway dangerous for pedestrians; and

(b) Complies with the requirements of subsection 3 and NRS 484A.430 and 484A.440.

A pedestrian safety zone shall be established based on documented pedestrian safety issues or concerns. The limits of the zone shall be as short as possible; however, at a minimum shall extend one intersection on all sides of the pedestrian safety issue.

The process for defining the zone includes 3 steps and involves collecting data and defining the crash problem on which the zone will be based, mapping the area, and defining the zone. The steps are as follows:

1) Identify the crash problem. In order to ensure a reasonably stable measure, a minimum of five year’s crash records should be available for establishing pedestrian safety zones. A zone approach is appropriate when all of the following conditions exist.

- Crash data needed to define the zone is available
- Data is sufficient to produce a stable map, i.e. not spread across a large area
- Pedestrian crashes cluster in some way

2) Map or visually show the locations of the crashes in some method. Conduct a visual examination of the resulting map noting any crash clusters. If no clustering is apparent, and the map shows crashes randomly spread, the problem may not be "zonable" for that area. Zones may include individual intersections of a grouping of city blocks. Zones may also be segments of single strip of roadway. NDOT recommends using a target rate of 10 crashes per zone as a minimum starting point, but rates should be adjusted based on the need and the characteristic of the surrounding area.

3) Calculate efficiency measure and select final zone. The percentage of both crashes and land area covered should be calculated in order to determine program coverage efficiency. If the ratio of the percent of the problem addressed to the percent of the land area covered in the zone is much less than three, the zone may need to be reexamined to try to improve efficiency.

   - $$Efficiency\ Ratio = \frac{\%\ crashes\ of\ interest\ area}{\%\ area\ those\ crashes\ occur\ over}$$

   - An efficiency ratio of three to one or higher (i.e., 60% of the crashes of interest in 20% of the land area) will permit the application of countermeasures.
   - An efficiency ratio less than two indicates the study area is "non-zonable" and the limits should be reexamined.

   Per NRS 484B.135 Section 3, when designating a speed zone, the following signs shall be placed:

   (a) A sign located before the beginning of the pedestrian safety zone which provides notice that higher fines may apply in pedestrian safety zones;

   (b) A sign to mark the beginning of the pedestrian safety zone; and

   (c) A sign to mark the end of the pedestrian safety zone.

   Refer to the National Highway Traffic Safety Administration (NHTSA) and NDOT's process for additional guidance.

6.5.4 Advisory Areas

Advisory Speeds may be required on short or isolated sections of road where existing constraints or other special conditions exist. Examples include tight horizontal curves or localized areas adjacent to high concentrations of pedestrians or pedestrian crossings. In these instances, the posted regulatory speed limit is not lowered but instead an advisory speed limit sign (W13-1P) and associated warning signs are used.

7.0 Type and Placement of Signs:

Speed limit signs shall be MUTCD compliant regulatory R2-1 signs, and advisory speed signs shall be W13-1P unless otherwise approved by the Public Works Director.

The advisory speed sign shall only be used to supplement a warning sign and shall not be installed as a separate sign installation. Regulatory speed limit signs shall not be placed between the location of the advisory speed sign and the location where the advisory applies.

Speed feedback signs or other similar variable message signs may be used in conjunction with regulatory speed limit signs and in special speed zones. Variable feedback signs are used to reduce vehicle speeds by making drivers aware of their speed relative to the posted speed limit. The use of these signs should be limited to locations of elevated or unexpected roadside hazards, or where changes to the existing speed limit have occurred and speeds need to be reduced to enhance safety, e.g. entering a school zone. When considering the use of speed feedback signs, complete a review of the site to identify safety issues where excessive speed is the primary contributing factor and more passive measures, such as warning signs, have proven ineffective at reducing speeds. Consideration shall also be given to the location of the sign including the physical, electrical, and logistical elements required for its operation and maintenance. Excessive use of these signs may lessen their effectiveness. Installation of a speed feedback sign shall be consistent with MUTCD Section 2B.13, “Speed Limit Sign (R2-1)” for changeable message signs.

For Pedestrian Safety Zones, refer to NDOT’s Operations and Safety Study Process for sign type and placement.

The mounting height, lateral offset, orientation, posts, and mountings of speed limit signs shall be in accordance with Section 2A of the MUTCD which provides for the standardization of the sign and post installation.

Speed limit signs shall be placed on all industrial, collector, and arterial roadways within Carson City based on the following:

- After intersections with other industrial, collector, or arterial roadways.
- At a point where a change in speed is required because of changes to roadway design elements.
- At the beginning and ending points of Special Speed Zones (e.g. school zones).
- At the jurisdictional boundaries where roadways enter Carson City.

- At a spacing as to periodically remind drivers of the roadway's regulatory speed limit.
- If warranted, as determined by the Public Works Director.

As listed in Carson City Municipal Code Section 10.20.010 – Basic Rule, the speed limit on or though the highways of Carson City is 25 mph unless otherwise posted. Speed limit signs are not required on local streets. However, if one of the following conditions exists, speed limit signs on local roads shall be placed:

- At the locations where a change in speed is required because of changes to the roadway design or design elements.
- At the beginning and ending points of special speed zones (e.g. school zones).
- Along local streets serving as a main or primary access route to a neighborhood or commercial development, and where that local road intersects with a collector or arterial road.
- If warranted, as determined by the Public Works Director.

All new or changes to existing signs shall be GPS'd for proper location tracking. Each finished product shall be photographed during daylight hours. The photo and the GPS data shall be submitted to the GIS division within 24 hours of completion of the work to be catalogued into the City's Asset Management database.

- END OF POLICY -

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RESOLUTION NO. 2020-R-14

RESOLUTION DESIGNATING THOSE HIGHWAYS OR PORTIONS OF HIGHWAYS AS SCHOOL ZONES PURSUANT TO CARSON CITY MUNICIPAL CODE SECTION 10.28.080.

WHEREAS, the Carson City Board of Supervisors is duly empowered by Nevada Revised Statutes 484B.363 and Carson City Municipal Code section 10.28.080 to designate school zones within Carson City; and

WHEREAS, the Public Works Director has reviewed all school sites within Carson City with the Carson City School District and the Carson City Sheriff's Office and determined appropriate school zone locations;

NOW THEREFORE, be it hereby resolved by the Carson City Board of Supervisors that:

The following highways or portions of highways within Carson City shall be designated as school zones.

1. For Carson High School:

North Saliman Road from East William Street south to Evans Street. East Robinson Street from Drew Way to 1,313 feet east of North Saliman Road to end of street.

2. For Bordewich-Bray Elementary School:

South Richmond Avenue from West 4th Street south to 464 feet south of West 5th Street. West 5th Street from Crain Street east to South Minnesota Street. Thompson Street from Hillcrest Street north to West Musser Street. West 4th Street from Thompson Street to 316 feet west. West 2nd Street from Thompson Street east to South Division Street. West King Street from North Minnesota Street west to South Iris Street.

3. For Carson Middle School:

West King Street from South Iris Street west to North Ormsby Boulevard. North Ormsby Boulevard from West King Street north to Calaveras Drive. North Richmond Avenue from West King Street north to West Robinson Street. West Telegraph Street from North Richmond Avenue east to North Minnesota Street. West Musser Street from North Richmond Avenue east to North Minnesota Street. Mountain Street from West King Street north to West Spear Street.

4. For Fritsch Elementary School:

North Division Street from West Winnie Lane south to Bath Street. Bath Street from Pyrenees Street east to North Curry Street. Mountain Street from West Winnie Lane south to West Long Street. West Winnie Lane from North Division Street west to North Ormsby Boulevard.

5. For Pioneer High School:

East Park Street from North Carson Street west to North Moody Street. Corbett Street from North Carson Street west to North Moody Street. East John Street from North Carson Street west to Anderson Street. North Fall Street from East Adams Street south to East John Street. North Peters Street from East Adams Street south to East Park Street. North Stewart Street from East Adams Street south to East John Street.

6. For Freemont Elementary School:

South Saliman Road from Little Lane south to Railroad Drive. Cardinal Way from Jewel Avenue east to South Saliman Road. Little Lane from South Saliman Road to 518 feet west of South Saliman Road. Firebox Road from South Saliman Road to 450 feet east of South Saliman Road.

7. For Al Seeliger ElementarySchool:

Shady Oak Drive from Brentwood Drive east to South Saliman Road. South Saliman Road from Shady Oak Drive south to Sonoma Street. Damon Road from Fieldcrest Drive west to South Saliman Road. Sonoma Street from Halleck Drive west to Baker Drive. Fremont Street from Sonoma Street to Sonoma Street. Cortez Street from Stonewall Street to 130 feet north of Fremont Street. Baker Drive from Sonoma Street to 610 feet north of Schell Avenue. Schell Ave from Baker Drive to 150 feet east.

8. For Mark Twain Elementary School:

Carriage Crest Drive from Northridge Drive south to Karin Drive. Spooner Drive from Northridge Drive west to Carriage Crest Drive. Slide Mountain Drive from Beverly Drive east to Carriage Crest Drive. Lindsay Lane from Beverly Drive east to Carriage Crest Drive. Mountain Park Drive from Beverly Drive east to Carriage Crest Drive.

9. For Empire Elementary School:

Stanton Drive from Siskiyou Drive to La Lompa Drive. Stanton Drive from Monte Rosa Drive east to Fairview Drive. Gordonia Drive from Airport Road east to Monte Rosa Drive. La Lompa Drive from 600 feet north of Stanton Drive to 600 feet south of Gordonia Drive. Cascade Drive from Gordonia Drive to 600 feet south. Glacier Drive from Gordonia Drive to 600 feet south. Monte Rosa Drive from 600 feet north of Stanton Drive to 600 feet

south of Gordonia Drive. Edmonds Drive from Fairview Drive to 600 feet northwest. Fairview Drive from Walker Drive south to Desatoya Drive.

10. For Eagle Valley Middle School:

East 5th Street from Hells Bells Road east to Riparian Way. Parkhill Drive from Hells Bells Road south to East 5th Street. Hells Bells Road from Parkhill Drive south to East 5th Street. Hidden Meadows Drive from East 5th Street southeast to Kay Court. Buzzy's Ranch Road from Hidden Meadow Drive to 600 feet south.

Upon motion by Supervisor Lori Bagwell, seconded by Supervisor Stacey Giomi, the foregoing Resolution was passed and adopted this 4th day of June 2020 by the following vote:

AYES:	Supervisor Lori Bagwell Supervisor Stacey Giomi Supervisor Brad Bonkowski Supervisor John Barrette Mayor Robert Crowell
NAYS:	None
ABSENT:	None
ABSTAIN:	None

ROBERT L. CROWELL, Mayor
Carson City, Nevada

ATTEST:

AUBREY ROWLATT, Clerk-Recorder
Carson City, Nevada

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Carson High School
School Zones

Public School

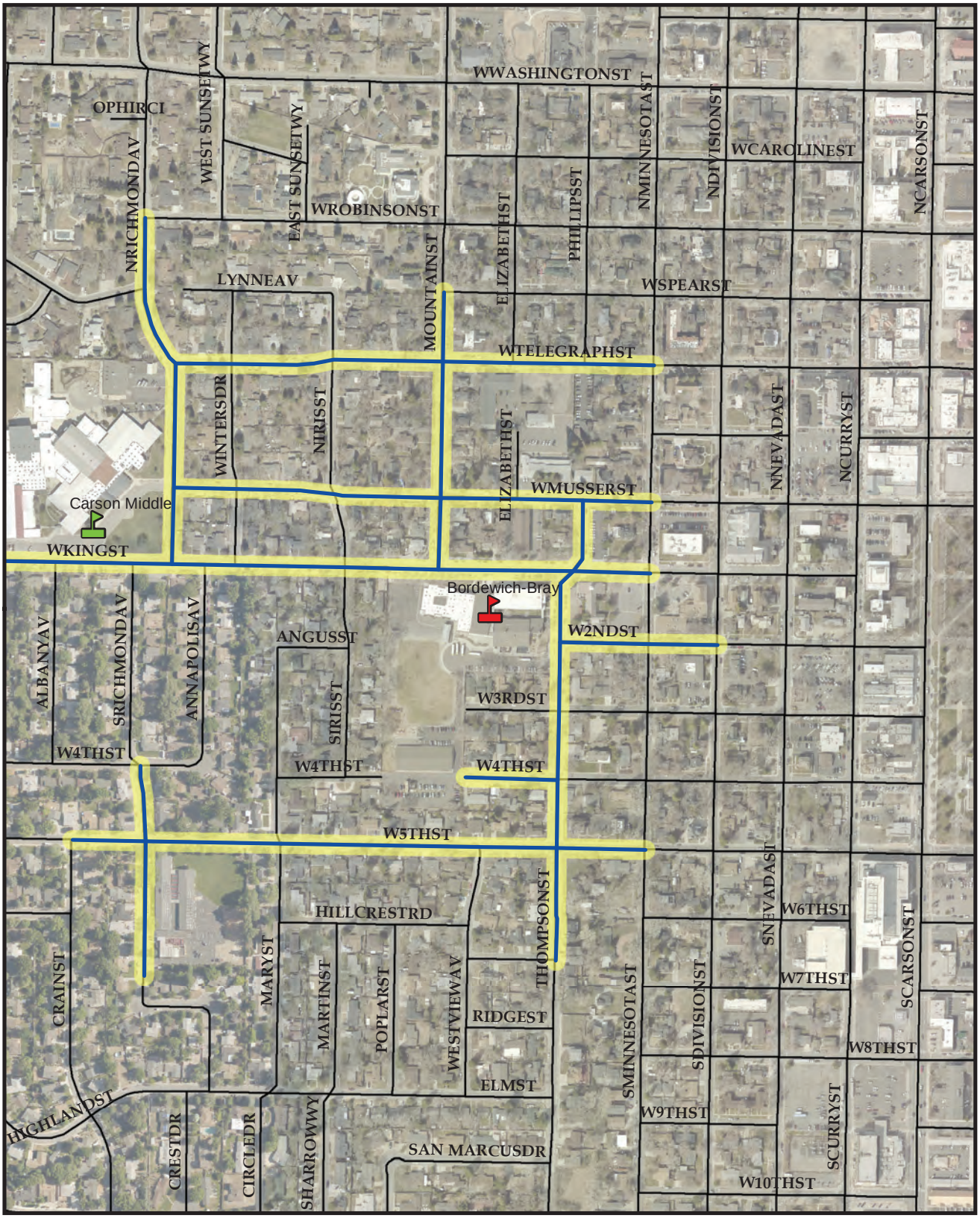
- Public, Elementary
- Public, Middle School
- Public, High School

- Proposed School Zones
- Present School Zones
- City Roads
- Highways

Present and Proposed School Zones in Carson City, Nevada

Carson City Public Works
January 2020

Bordewich-Bray Elementary School Zones



Public School

- Public, Elementary
- Public, HIgh School
- Public, Middle School

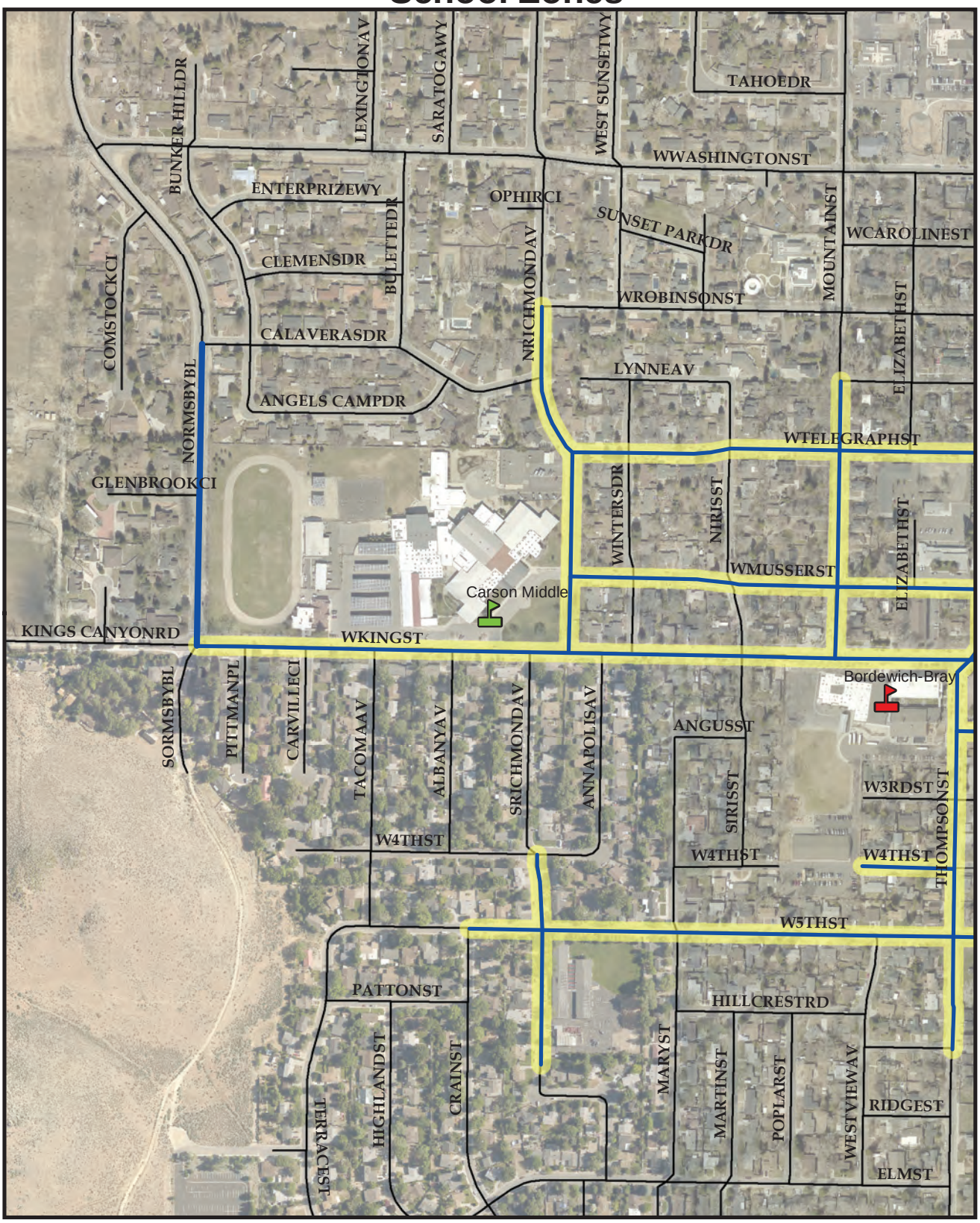
- Proposed School Zone
- Present School Zone
- Highways
- City Roads

0 100 200 400 Feet

Present and Proposed School Zones in Carson City, Nevada

Carson City Public Works
January 2020

Carson Middle School
School Zones



Public School

- Public, Elementary
- Public, HIgh School
- Public, Middle School

- Proposed School Zone
- Present School Zone
- Highways
- City Roads

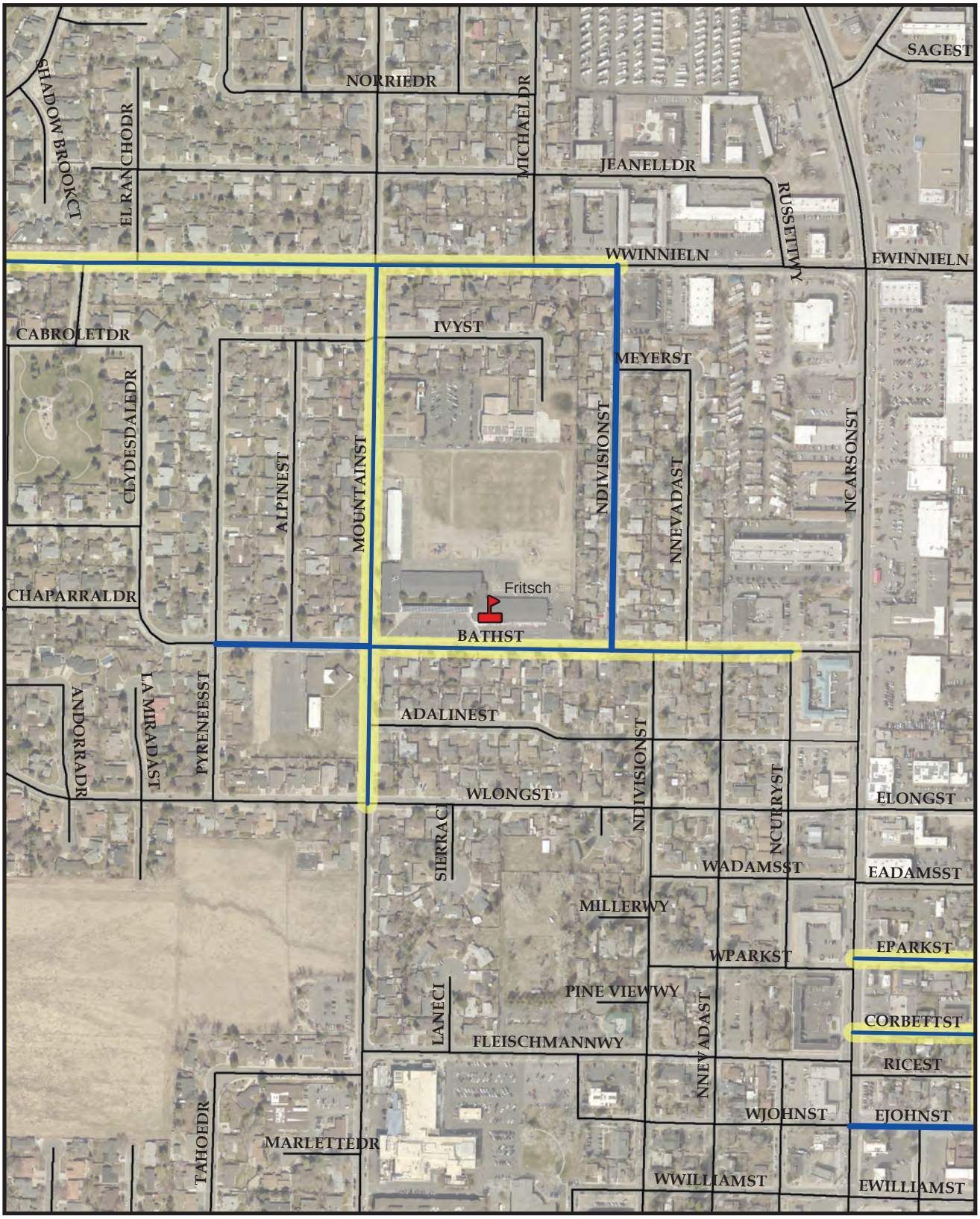
N W E S

0 100 200 400 Feet

Present and Proposed School Zones in Carson City, Nevada

Carson City Public Works
January 2020

Fritsch Elementary School Zones



Public School

- Public, Elementary
- Public, HIgh School
- Public, Middle School

- Proposed School Zone
- Present School Zone
- Highways
- City Roads

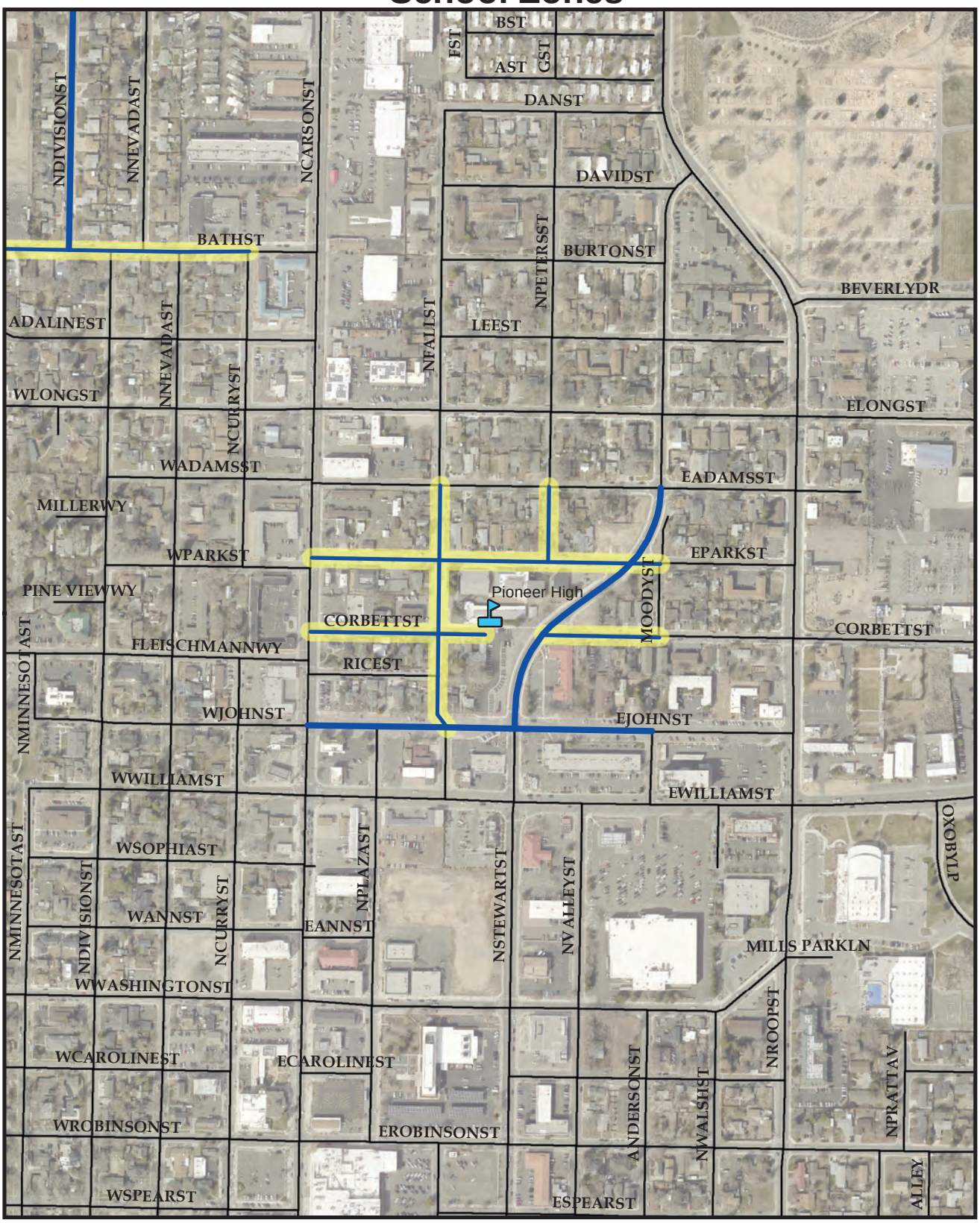
N W E S

0 100 200 400 Feet

Present and Proposed School Zones in Carson City, Nevada

Carson City Public Works
January 2020

Pioneer High School Zones



Public School

- Public, Elementary
- Public, HIgh School
- Public, Middle School

- Proposed School Zone
- Present School Zone
- Highways
- City Roads

N W E S

0 100 200 400 Feet

Present and Proposed School Zones in Carson City, Nevada

Carson City Public Works
January 2020

Fremont Elementary School Zones

Public School

- Public, Elementary
- Public, HIgh School
- Public, Middle School

- Proposed School Zone
- Present School Zone
- Highways
- City Roads

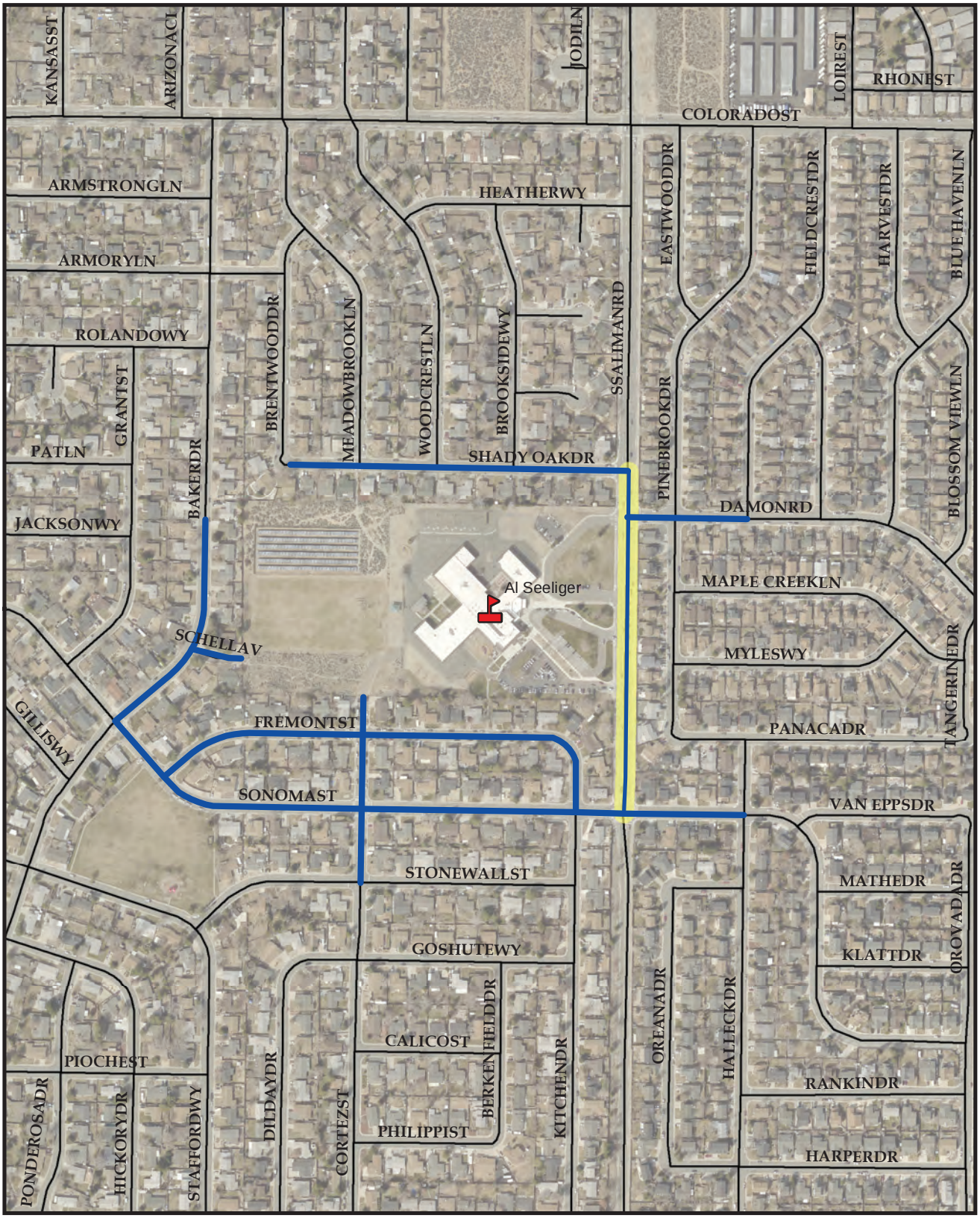
N W E S

0 100 200 400 Feet

Present and Proposed School Zones in Carson City, Nevada

Carson City Public Works
January 2020

Al Seeliger Elementary
School Zones



Public School

- Public, Elementary
- Public, HIgh School
- Public, Middle School

- Proposed School Zone
- Present School Zone
- Highways
- City Roads

N W E S

0 100 200 400 Feet

Present and Proposed School Zones in Carson City, Nevada

Carson City Public Works
January 2020

Mark Twain Elementary School Zones

Public School

- Public, Elementary
- Public, HIgh School
- Public, Middle School

- Proposed School Zone
- Present School Zone
- Highways
- City Roads

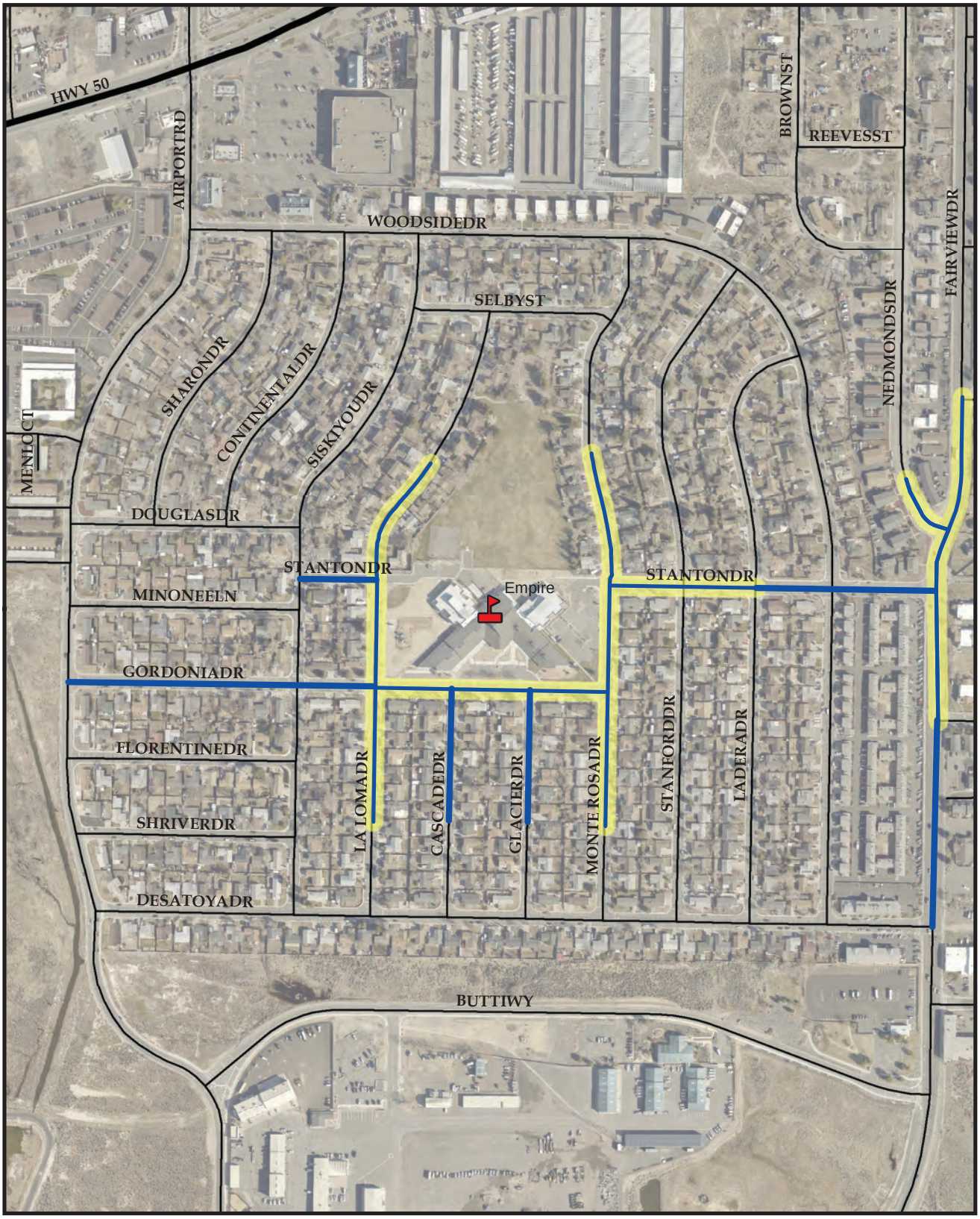
N W E S

0 100 200 400 Feet

Present and Proposed School Zones in Carson City, Nevada

Carson City Public Works
January 2020

Empire Elementary School Zones



Public School

- Public, Elementary
- Public, HIgh School
- Public, Middle School

- Proposed School Zone
- Present School Zone
- Highways
- City Roads

N W E S

0 100 200 400 Feet

Present and Proposed School Zones in Carson City, Nevada

Carson City Public Works
January 2020

Eagle Valley Middle School
School Zones

Public School

- Public, Elementary
- Public, Middle School
- Public, High School

- Proposed School Zones
- Present School Zones
- City Roads
- Highways

Present and Proposed School Zones in Carson City, Nevada

Carson City Public Works
January 2020

Carson City Regional Transportation Commission
Item for Commission Information

RTC Meeting Date:	July 8, 2020
To:	Regional Transportation Commission
From:	Justin Tiearney, Street Supervisor
Date Prepared:	June 25, 2020
Subject Title:	Street Operations Activity Report
Staff Summary:	Monthly Status Report for the Commission's Information

Carson City Public Works, Street Operations Division
Status Report to RTC: Activities of May 2020

Street Repair and Maintenance

ACTIVITIES	QUANTITIES/COMMENTS	FYTD
Crack Seal Operation (blocks of sealant used)	450	2,709
Street Patching Operation (tons of asphalt)	30	440
Pot Holes Repaired	0	70

Tree Care and Maintenance

ACTIVITIES	QUANTITIES/COMMENTS	FYTD
Tree Pruning Operations	8	675
Tree Removal	5	17
Tree Replacement	0	3
Tree Care Chemical Treatment	0	4,460
Tree Work for Other Departments	5	31
Weed Abatement Chemical Sprayed (gallons applied)	2423	7,750

Concrete Repair and Maintenance

ACTIVITIES	QUANTITIES/COMMENTS	FYTD
Concrete Poured (yards)	24.75	392
Curb & Gutter (linear feet)	161	2,927
Sidewalk & Flat Work (sq/ft)	776	12,201
Wheel Chair Ramps	0	2
Misc.	0	245

Grading and Shoulder Maintenance

ACTIVITIES	QUANTITIES/COMMENTS	FYTD
Dirt Road Work/Misc	0	2,550
Shoulder Work on Asphalt Roads	1,548	16,822
Debris Cleaned	0	1,652

Storm Water

ACTIVITIES	QUANTITIES/COMMENTS	FYTD
Sediment Removed from Ditches (yards)	200	7,251
Lineal foot of ditch cleared	1548	8,877
Pipe Hydro Flushed (linear feet)	0	1,299
Drainage Inlets Cleaned	0	411

Sweeper Operations

ACTIVITIES	QUANTITIES/COMMENTS	FYTD
Curb Miles Swept	486.7	6,085
Material Picked Up (yards)	236	3,411
City Parking Lots Swept	0	11

Trucking Bins

ACTIVITIES	QUANTITIES/COMMENTS	FYTD
Bins Hauled for Waste Water Treatment Plant (yards)	32	369
Bins Hauled for Sweeping Operation (yards)	41	440
Equipment Transported for other Departments	0	0

Banner and Decorations Activities

ACTIVITIES	QUANTITIES/COMMENTS	FYTD
Banner Operations Carson Street	4	44
Changed Lamp Post Banners	0	0
Installed Christmas Decorations	0	141
Removed Christmas Decorations	0	141

Signs and Markings

ACTIVITIES	QUANTITIES/COMMENTS	FYTD
Signs Made	26	230
Signs Replaced	24	268
Sign Post Replaced	1	35
Signs Replaced due to Graffiti Damage	5	76
Delineators Replaced	19	120
Cross Walks Painted	17	226
Stop Bars Painted	6	181
Yield Bars Painted	17	125
Right Arrows Painted	11	43
Left Arrows Painted	28	180
Straight Arrows Painted	17	24
Stop (word) Painted	0	10
Only (word) Painted	0	11
Bike Symbol & Arrow	0	0
Install Street, bicycle, and pedestrian counters	0	57
Curb Painted (linear feet)	0	78

Weather Events

ACTIVITIES	QUANTITIES/COMMENTS	FYTD
Snow and Ice Control	0	25
Rain Event/Flood Control	0	3
Wind	0	0