# WORK SESSION AGENDA

Casper City Council City Hall, Council Chambers Tuesday, March 8, 2022, 4:30 p.m.



	Work Session Meeting Agenda	Recommendation	Beginning Time	Allotted Time
	Recommendations = Information Only, Move Forward for Approval, Direction Requested			
1.	Council Meeting Follow-up		4:30	5 min
2.	24-Seat Passenger Bus for use by 5150 Tourism Development	Move Forward for Approval	4:35	15 min
3.	Updating Rooming of Hotels, Lodging in the City	Direction Requested	4:50	15 min
4.	Council Pre-Meeting or Work Session Attendance	Direction Requested	5:05	40 min
5.	Downtown One-Way to Two-Way	Direction Requested	5:45	20 min
6.	Capital Budget	Direction Requested	6:05	70 min
7.	Agenda Review		7:15	10 min
8.	Legislative Review		7:25	10 min
9.	Council Around the Table		7:35	15 min
Approximate End Time:				7:50

\*Please silence cell phones during the meeting\*

MEMO TO: J. Carter Napier, City Manager

Tracey L. Belser, Support Services Director Dan Corvell Float M. FROM:

Dan Coryell, Fleet Manager

24-Seat Passenger Bus for use by 5150 Tourism Development, Inc. (5150) SUBJECT:

# Meeting Type & Date

Work Session March 8, 2022

### Action type

Direction Requested

### Recommendation

That Council review and support the Agreement between the City of Casper and 5150 that will be placed on the City Council Meeting Agenda, for official approval, on March 15, 2022.

# **Summary**

The topic of purchasing a 24-seat passenger bus for use by Visit Casper was discussed at the City Council Work Session held on February 8, 2022. The bus will actually be purchased by 5150, which is affiliated with Visit Casper. The cost of the bus is \$187,959.00, which 5150 will pay to the City of Casper after the bus is delivered and assessed for compliance within the bid specifications ordered. This bus is expected to be delivered one year from the order date. The City will own the bus and lease the bus to 5150 for One Dollar (\$1.00) annually on the anniversary date of when the City received the purchase amount from 5150. 5150 will use this bus to move conventioneers, event attendees, and leisure visitors around Natrona County including access to the City, as schedule allows, utilizing the bus for events relating to the City Parks, Recreation, and Public Facilities Department.

### Financial Considerations

This bus will be paid for by 5150.

### Oversight/Project Responsibility

Dan Coryell, Fleet Manager, will make this purchase. Oversight will be transferred to 5150 after the bus is received.

### Attachments

Passenger Bus Agreement

MEMO TO:

Honorable Mayor, and Members of the Casper City Council

FROM:

Brook Kaufman, CEO - Visit Casper

SUBJECT:

MOU between the City of Casper and Visit Casper for the operation and

maintenance of a 24-passenger bus

### Meeting Type & Date

Work Session, February 8, 2022

### **Action Type**

Approval

### Recommendation

That Council give approval for the City and Visit Casper staff to work towards an MOU to formalize an agreement for the operation and maintenance of a 24-passenger bus.

### **Summary**

Visit Casper is proposing a partnership with the City of Casper to secure, store and maintain a 24-passenger bus to move conventioneers, event attendees, and leisure visitors around Natrona County. Specifically, Visit Casper proposes to provide funding to the City of Casper to purchase a bus which would be leased back to our organization for a nominal annual fee. Should Council agree, Visit Casper would like the City's assistance bidding and procuring a 24-passenger bus, providing fuel and routine maintenance for a fee, and providing a secure place to store the bus on City property when not in use. In return, Visit Casper would agree to wrap the bus, pay for major repairs/replacement, secure liability insurance, and pay for employment costs or contract fees for drivers when in use. Visit Casper would also agree to provide access, as the schedule allows, to the city for events at Hogadon Ski Area or other locations as determined by the Parks, Recreation, and Public Facilities Department.

### Financial Considerations

Visit Casper will provide the funds to the City to procure the bus. As the owner, the City will then lease the bus to Visit Casper to be the operator for a nominal annual fee. Specific details regarding maintenance and repair costs, as well as charges to provide transportation services to the City of Casper Parks, Recreation, and Public Facilities Department, will be finalized in the MOU.

### Oversight/Project Responsibility

Brook Kaufman, CEO – Visit Casper Tracey Belser, Support Services Director Liz Becher, Community Development Director Zulima Lopez, Parks, Recreation, & Public Facilities Director

### **Attachments**

None

### PASSENGER BUS AGREEMENT

	This Passenger	Bus Agreement, hereinafter referred to as "Agreement", entered into as of
this	day of	, 2022, by and between the City of Casper, Wyoming, a Wyoming
		("City"), 200 North David Street, Casper, Wyoming 82601, and the 5150
Touris	m Development	Inc. ("5150"), 139 W. 2 <sup>nd</sup> St. #1b, Casper, Wyoming 82601.

Throughout this document the City and 5150 may be individually referred to as a "party" or collectively as the "parties."

WHEREAS, 5150 has identified the need for a Twenty-Four (24) seat passenger bus, hereinafter referred to as "bus," to be used by Visit Casper to move conventioneers, event attendees, and leisure visitors around Natrona County; and,

WHEREAS, this benefits the City by gaining more conventioneers and attendees desiring to come and produce commerce in our community; and,

WHEREAS, the City is willing to accept owning the bus purchased by 5150 according to the responsibilities outlined below.

NOW, THEREFORE, in consideration of the mutual promises and covenants hereinafter contained, the parties agree as follows:

- 1. **Incorporation of Recitals.** The recitals set forth above are hereby incorporated herein at this point as if fully set forth as part of this Agreement.
- 2. **Effective Date.** This Agreement will be in effect on March 16, 2022, and be automatically renewed annually, on the same month and date of subsequent years unless the terms are modified in writing by mutual agreement between the respective parties as allowed by this Agreement.
- 3. **Responsibilities of the City.** The City shall bid, procure, and own the bus. The City shall lease the bus to 5150 in the amount of One Dollar (\$1.00) annually. The City shall provide routine maintenance for the bus through the City's Fleet Services Division. The City shall consult with 5150 on any major repairs/replacement needed outside of routine maintenance and minor repair/replacement prior to the work being done to approve the funding that will be needed by 5150 for said repairs/replacements. The City shall provide 5150 access and use of the City fuel pumps for the bus. The City's Fleet Services Division will bill 5150 for any fuel used at the City fuel pumps. The City shall provide 5150 the ability to store the bus on City property.
- 4. Responsibilities of 5150 Tourism Development, Inc. The bus is expected to be delivered twelve (12) months from the order date. 5150 shall pay the amount of \$187,959.00 to the City's Fleet Services, who will in turn pay Creative Bus Sales, after the bus is delivered to the City's Fleet Services Division and assessed for meeting all the bid specifications as ordered. Thereafter, 5150 shall pay One Dollar (\$1.00) annually to lease the bus from the City. 5150 shall provide the funding for major repairs/replacements to the bus outside of routine maintenance, minor repair/replacement, and that which is not covered by the City's property coverage deductible. 5150 shall pay the City for City fuel used. 5150 shall pay for any promotional wrapping on the bus. 5150

shall secure and pay for liability insurance for operating the bus. 5150 shall be responsible for all employment costs and independently contract with any City Transit Bus Drivers employed by the City or any other qualified driver to operate the bus. 5150 shall provide access to the City, as schedule allows, to utilize the bus for events relating to the City Parks, Recreation and Public Facilities Department.

- 5. No Waiver of Governmental Rights. The City of Casper does not waive any right or rights it may have pursuant to the Wyoming Governmental Claims Act, Wyoming Statutes Section 1-39-1010 et seq., and the City specifically reserved the right to assert any and all rights, immunities, and defenses it may have pursuant to the Wyoming Governmental Claims Act.
- 6. No Third Party Beneficiaries. The parties to this Agreement do not intend to create, except as provided herein any other individual or entity the status of third-party beneficiary, and this Agreement shall not be construed so as to create such status. Except as provided herein, the rights, duties, and obligations contained in this Agreement shall operate only between the signatories to this Agreement, and shall insure solely to the benefit of the parties to this Agreement. The signatories to this Agreement intend and expressly agree that only signatories to this Agreement shall have any legal or equitable right to seek to enforce this Agreement, to seek any remedy arising out of a party's performance or failure to perform any term or condition of this Agreement, or to bring an action for the breach of this Agreement.
- 7. **Governing Law and Venue.** This Agreement shall be governed by the laws of the State of Wyoming. The Courts of the State of Wyoming shall have jurisdiction over this Agreement and the parties. The venue shall be the Seventh Judicial District, Natrona County, Wyoming.
- 8. Availability of Government Funds. The payment obligation contained herein is contingent upon the availability of government funds which are appropriated or allocated for the payment of this obligation. If funds are not allocated and available for the continuance of the services to be performed by the City, this Agreement may be terminated by the City without penalty, and the City shall not be obligated or liable for any future payments due or for any damages as a result of termination under this section.
- 9. **Force Majeure**. Neither party shall be liable for failure to perform under this Agreement if such failure to perform arises out of causes beyond the control and without the fault or negligence of the nonperforming party. Such causes may include, but are not limited to, acts of God or the public enemy, fires, floods, epidemics, pandemics, quarantine restrictions, freight embargoes, and unusually severe weather. This provision shall become effective only if the party failing to perform immediately notifies the other party of the extent and nature of the problem, limits delay in performance to that required by the event, and takes all reasonable steps to minimize delays.
- 10. Electronic Signatures. The parties understand and agree that they have the right to execute this Agreement through paper or through electronic signature technology, which is in compliance with Wyoming and federal law governing electronic signatures. The parties agree that to the extent they sign electronically, their electronic signature is the legally binding equivalent to their handwritten signature. Whenever they execute an electronic signature, it has the same validity and meaning as their handwritten signature. They will not, at any time in the future, repudiate the meaning of their electronic signature or claim that their electronic signature is not legally binding. They agree not to object to the admissibility of this Agreement as an electronic record, or a paper copy of an electronic document, or a paper copy of a document bearing an electronic signature, on

the grounds that it is an electronic record or electronic signature or that it is not in its original form or is not an original. Each party will immediately request that their electronic signature be revoked in writing if they discover or suspect that it has been or is in danger of being lost, disclosed, compromised or subjected to unauthorized use in any way. If either party would like a paper copy of this Agreement, they may request a copy from the other party, and the other party shall provide it.

- 11. **Independent Contractors**. The parties shall perform the terms of this Agreement as independent contractors. The parties intend that this Agreement will not be construed to create any relationship between them or any of their respective employees other than that of independent entities contracting for the purpose of effecting the provisions of this Agreement.
- 12. **Complete Agreement**. This Agreement will supersede any or all prior oral or written forms of understanding between the City and 5150 regarding the subject matter herein. This Agreement may not be amended or modified except when amended in writing and signed by both parties.

### 13. Termination.

- a. 5150 may terminate this Agreement at any time for any reason by providing the City with thirty (30) days written notice of its intent to terminate. In the event that 5150 terminates this Agreement for any reason other than City's breach of Agreement, 5150 shall refund a prorated amount of fees received to the City for any period after the date of termination and return any materials, equipment, hardware, or software loaned by the City for the event, at the 5150's expense.
- b. The City may terminate this Agreement anytime for any reason by providing thirty (30) days written notice to 5150 of intent to terminate said Agreement.
- c. In the event either party elects to terminate this Agreement, the City shall take all actions necessary to transfer the title of the bus to 5150.
- 14. Limitation of Liability. In no event shall either party be liable to the other party for any consequential, incidental, indirect, or punitive damages regardless of whether such liability results from breach of contract, breach of warranties, tort, strict liability, or otherwise.

### 15. Insurance and Indemnification:

- A. **Prior to** the commencement of work, 5150 shall procure and maintain for the duration of the Agreement insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by 5150, its Subconsultants, agents, representatives, or employees.
- B. Minimum Scope and limit of Insurance.

Coverage shall be at least as broad as:

1. Commercial General Liability (CGL): Insurance Services Office Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than the sum of Two Hundred Fifty Thousand Dollars (\$250,000) to any claimant for any number of claims arising out of a single transaction or

occurrence; or the sum of Five Hundred Thousand Dollars (\$500,000) for all claims arising out of a single transaction or occurrence. If a general aggregate limit applies, the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit). The CGL policy shall be endorsed to contain Employers Liability/Stop Gap Coverage

- 2. Automobile Liability: Insurance Services Office Form Number CA 0001 covering Code 1 (any auto), or if 5150 has no owned autos, Code 8 (hired) and 9 (nonowned), with limit no less than Five Hundred Thousand (\$500,000) per accident for bodily injury and property damage.
- 3. Workers' Compensation: as required by the State of Wyoming with Statutory Limits.
- C. Higher Limits. If 5150 maintains broader coverage and/or higher limits than required under this Agreement, then the City shall be entitled to the broader coverage and/or the higher limits maintained by 5150. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

## D. Other Insurance Provisions

The insurance policies are to contain, or be endorsed to contain, the following provisions:

### 1. Additional Insured Status

The City, its officers, elected and appointed officials, employees, agents and volunteers are to be covered as additional insureds on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of 5150 including materials, parts, or equipment furnished in connection with such work or operations. General liability coverage shall be provided in the form of an endorsement to 5150's insurance (at least as broad as ISO Form CG 20 10 11 85 or both CG 20 10, CG 20 26, CG 20 33, or CG 20 38 and CG 20 37 forms if later revisions used).

### 2. Primary Coverage

For any claims related to this Agreement, 5150's insurance coverage shall be primary and non-contributory insurance coverage at least as broad as ISO CG 20 01 04 13 as respects 5150 as respects the City, its officers, elected and appointed officials, employees, agents and volunteers.

### 3. Notice of Cancellation

Each insurance policy required above shall state that coverage shall not be canceled, materially changed, or reduced, except with notice to the City. Such notice to the City shall be provided in a commercially reasonable time.

# 4. Waiver of Subrogation

5150 hereby grants to City a waiver of any right to subrogation which any insurer of 5150 may acquire against the City by virtue of the payment of any loss under such insurance. 5150 agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not the City has received a waiver of subrogation endorsement from the insurer.

### 5. Deductibles and Self-Insured Retentions

5150 has two options regarding deductibles and self-insured retentions:

- a. Option 1: Any deductibles or self-insured retentions must be declared to and approved by the City. Unless otherwise approved by the City in writing, any deductible may not exceed Ten Thousand Dollars (\$10,000). Unless otherwise approved in writing by the City, self-insured retentions may not exceed Ten Thousand Dollars (\$10,000), and the City may require 5150 to provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention.
- b. Option 2: 5150 shall carry insurance with terms that require its insurance company to pay the full value of a covered claim from the first dollar of coverage, even if 5150 is unable to pay any deductible or self-insured retention amount(s) required by the insurance policy. 5150 shall provide a written endorsement from its insurance carrier that such insurance coverage is in place, and shall keep such coverage in place during the term of this Agreement and any subsequent time period required for claims made policies.

### 6. Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII, unless otherwise agreed to in writing by the City.

### 7. Claims Made Policies

If any of the required policies provide coverage on a claims-made basis:

- a. The Retroactive Date must be shown and must be before the date of the Agreement or the beginning of Agreement work.
- b. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of the Agreement. However, 5150's liabilities under this Agreement shall not be deemed limited in any way by the insurance coverage required.

c. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a Retroactive Date prior to the Agreement effective date, 5150 must purchase "extended reporting" coverage for a minimum of five (5) years after completion of Agreement work and at all times thereafter until the applicable statute of limitations runs.

# 8. Verification of Coverage

5150 shall furnish the City with original certificates of insurance including all required amendatory endorsements or copies of the applicable policy language effecting coverage required by this clause and a copy of the Declarations and Endorsement Page of the CGL policy listing all policy endorsements to the City before work begins. All certificates and endorsements are to be received and approved by the City before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive 5150's obligation to provide them. The City reserves the right to require complete, certified copies of all required insurance policies, including endorsements required by these specifications, at any time.

## 9. Subconsultants

5150 shall require and verify that all Subconsultants maintain insurance meeting all the requirements stated herein, and 5150 shall ensure that the City is an additional insured on insurance required from Subconsultants.

# 10. Special Risks or Circumstances

City reserves the right to reasonably modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

E. 5150 agrees to indemnify the City, the City's employees, elected officials, appointed officials, agents, and volunteers, and all additional insured and hold them harmless from all liability for damages to property or injury to or death to persons, including all reasonable costs, expenses, and attorney's fees incurred related thereto, to the extent arising from negligence, fault or willful and wanton conduct of 5150 and any Subconsultant thereof.

\*\*\*The remainder of this page is intentionally left blank. \*\*\*

IN WITNESS WHEREOF, the City, and 5150 Tourism Development Inc., have executed this Agreement as of the date first above written.

APPROVED AS TO FORM	
ATTEST	CITY OF CASPER, WYOMING A Municipal Corporation
Fleur Tremel City Clerk	Ray Pacheco Mayor
WITNESS	5150 Tourism Development Inc.
	Brook Kaufman Chief Executive Officer 5150 Tourism Development Inc.

**MEMO TO:** 

City Council

J. Carter Napier, City Manager

FROM:

John Henley, City Attorney \( \)

**SUBJECT:** 

An Ordinance Amending Chapter 5.24 of the Casper Municipal Code, which addresses the regulation of hotels, rooming houses, and lodging houses within the City of Casper.

### **Meeting Type & Date**

Work Session March 8, 2022

### Action type

Information and direction requested.

### Recommendation

The title of the proposed ordinance is "An Ordinance Amending Chapter 5.24 of the Casper Municipal Code Which Addresses the Regulation of Hotels, Rooming Houses, and Lodging Houses within the City of Casper". That Council review the proposed changes to the current Code provisions regarding hotels and rooming houses and provide direction on the proposed changes and other changes it desires.

### Summary

Ordinance No. 154-A, which underlines various sections of Casper Municipal Code Chapter 5.24 was passed on July 19, 1920. This chapter of the Code needs updated. Find attached a redlined version of Chapter 5.24 showing the proposed updates to the Code.

Staff is requesting Council to direct modifications as appropriate and to move forward the revised proposed ordinance for consideration at the regular council meeting of March 15, 2022; the public hearing would need to be established by minute action at the March 1, 2022, regular council meeting.

### **Financial Considerations**

Minimal change in license fees and uniformity thereof as noted in Section 5.24.020 of the Ordinance. (\$25.00 per business/calendar year)

### Oversight/Project Responsibility

John Henley, City Attorney Keith McPheeters, Chief of Police

### Attachments

**Proposed Ordinance** 

# ORDINANCE NO.

AN ORDINANCE AMENDING CHAPTER 5.24 OF THE CASPER MUNICIPAL CODE WHICH ADDRESSES THE REGULATION OF HOTELS, ROOMING HOUSES, AND LODGING HOUSES WITHIN THE CITY OF CASPER.

WHEREAS, the governing body of the City of Casper has the authority granted by Wyoming State Statute §15-1-103(a)(xiii) and (xli) to adopt ordinances and resolutions necessary to protect the health, safety and welfare of the City and of its citizens; and,

WHEREAS, the governing body of the City of Casper may Casper may perform all acts in relation to the concerns of the city necessary to the exercise of its corporate powers; and,

WHEREAS, the Casper Municipal Code needs updated and modified from time to time; and,

WHEREAS, the governing body of the City of Casper desires to update and amend the following Sections of Chapter 5.24 Hotels and Roominghouses.

NOW, THEREFORE, BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF CASPER, WYOMING: that the following Sections of Chapter 5.24 are amended and shall be codified as follows:

### 5.24.010 Definitions.

For the purpose of this chapter, the terms "roominghouse" and "lodginghouse" mean and include any house or dwelling where more rooms are rented to roomers or lodgers than are used or occupied by the head of the house or his immediate family, whether he be such as tenant, owner, agent or occupant. The terms "roominghouse" and the term "lodginghouse" shall be construed to be synonymous.

(Prior code § 19-1)

# 5.24.020 License—Required—Fee.

No person shall-conduct, keep, manage, operate or cause to be conducted, kept, managed or operated, either as owner, lessor, lessee, agent or attorney, own, operate or manage any hotel, motel, roominghouse or lodginghouse within the city without first having obtained a license from the city to do so. The licenses shall be issued annually and shall expire on the 31st day of December 31st of each year. Any roominghouse, lodginghouse, or hotel and motel within the city shall pay an annual license fee of ten dollars twenty-five dollars (\$25.00) per calendar year. upon the first twenty rooms or fractional number thereof, and twenty-five cents for each additional room over the twentyjeth room.

(Prior code § 19-2)

### 5.24.030 License-Nontransferable.

No license issued under this chapter shall be transferred or assigned. (Prior code § 19-7)

# 5.24.040 License-Posting required.

It is the duty of every person to whom a license is issued, as provided in this chapter, to display such license in a conspicuous manner in the office of the hotel/motel, roominghouse, or lodginghouse to which the license relates.

(Prior code § 19-5)

# 5.24.050 License—Cancellation—Hearing.

The city council may cancel any license issued under this chapter for violation of any provisions of this chapter. Before such cancellation, however, the licensee shall be notified and shall have a hearing before the city council if demanded. This provision shall not impair or supplant any other legal obligation or prevent the imposition of any other penalty established by lawful ordinance, regulation or statute.

(Prior code § 19-6)

# 5.24.060 Room numbering required.

Any person to whom a license is issued, as provided in this chapter, shall cause each sleeping room and apartment in such house or hotel/motel to which the license relates to be numbered in a plain and conspicuous manner; the number to be placed on the outside of the door to such room, and no two such doors shall bear the same number.

(Prior code § 19-9)

# 5.24.070 Guest registration.

Every person to whom a license is issued to conduct a hotel, motel, rooming house, lodging house (hereafter lodging operation) shall, at all times, keep a hotel register, which shall contain the names of all guests or persons renting or occupying rooms in such lodging operation and their vehicle information, which register shall be signed by the person renting a room or by someone under the person's direction. After the registration, the manager of the lodging operation, or the manager's agent, shall write the number of the room inside which such guest or person is towill occupy, together with the time when such room is rented, all of which shall be done before such person and the party of such person are permitted to occupy such rooms. Any peace officer of the city or state may request the consent of the manager of the lodging operation, or the manager's agent, to inspect the record or a part of it pertaining to

specific names or vehicles as part of the police and sheriffs departments' public safety responsibilities.

(Prior code § 19-8; Ord. No. 17-18, 10-16-2018)

# 5.24.080 Use of fictitious name prohibited.

It is unlawful for any person to write or cause to be written in any hotel/motel register any other or different name than the true name of such person or the name by which such person is generally known.

(Prior code § 19-12)

# 5.24.090 Immoral practices prohibited.

No person to whom a license is issued, or their agent(s), as provided in this chapter, shall suffer or permit the hotel, roominghouse, or lodginghouse to which such license relates to be used as a sa a house of ill fame, brothel, or bawdyhouse or disorderly house, for the purpose of prostitution, fornication or lewdness; or suffer any lascivious cohabitation, adultery, fornication or other immoral practice to be carried on therein.

(Prior code § 19-11)

# 5.24.100 Right of entry for inspection.

Any officer of the city has the right to enter into, and upon, the <u>premises common areas</u> of any hotel/motel, roominghouse, or lodginghouse for the purpose of inspection at any reasonable hour. This provision shall not impair an officer's ability to seek and obtain a search or arrest warrant which may be executed as at any other location.

(Prior code § 19-10)

# 5.24.110 Violation—Liability—Prosecution.

- A. Where a license is issued to any copartnership, corporation or association to conduct own, manage or operate a hotel, motel, roominghouse, or lodginghouse, any person having charge, management or control of such hotel, motel, roominghouse, or lodginghouse shall be liable to prosecution for any violation of this chapter.

(Prior code §§ 19-14, 19-15)

	PASSED on 1st reading the	day of	, 2022	
	PASSED on 2 <sup>nd</sup> reading the _	day of	, 2022	
of	PASSED, APPROVED, AND , 2022.	ADOPTED of	n third and final reading the	day
APPRO	VED AS TO FORM:			
ATTES	Γ:		CITY OF CASPER, WYOMING A Municipal Corporation	
Fleur Tremel City Clerk			Ray Pacheco Mayor	

**MEMO TO:** 

City Council

J. Carter Napier, City Manager

FROM:

John Henley, City Attorney Qu

**SUBJECT:** 

Potential rule to address small attendance at a pre-meeting or work

session.

# **Meeting Type & Date**

Work Session March 8, 2022

### **Action type**

Direction requested.

### Recommendation

That City Council review the proposed council guidelines below and provide direction.

### **Summary**

The question of attendance, or more accurately lack of attendance at pre-meetings and work sessions, was previously discussed by the Council and a work session agenda time was requested. The prior discussion (pre-meeting) was held on December 21, 2021. Specific guideposts were discussed. At that time, the desired structure was to provide guidelines for minimal attendance at pre-meetings and work sessions to give the Mayor or Vice-Mayor guidance, but to permit the Mayor or Vice-Mayor the discretion to override the guidelines if the Chair felt it appropriate under the circumstances. <sup>1</sup>

Generally, "information only", "direction requested" or "move forward for approval" are the options to gather information and direct staff on what the council would like included for future review or for a resolution or ordinance at a future council meeting. Suggestions for your discussion are as follows.

### **Procedure Guidelines for Pre-meetings and Work Sessions**

For information to be presented at a scheduled pre-meeting or work session at least three (3) members must be present; questions may be asked.

<sup>&</sup>lt;sup>1</sup> No formal action can be taken in either a work session or a pre-meeting, but Council can discuss, ask questions, request more information, give feedback and let staff know if and for what reason they want to see the topic again.

- Councilmember discussion will not be allowed until five (5) councilmembers are present (telephonically or electronically otherwise), including those who declare a conflict or potential conflict.
- If only five (5) to seven (7) councilmembers are present, at least four (4) members must indicate a preference, in favor of a direction for staff action, or to move forward with an agenda item. A majority of those present may ask that additional research or information be provided at a subsequent work session or pre-meeting.
- A non-conflicted member who was not present for an agenda topic where only four (4) councilmembers expressed a preference, in favor of a specific direction or request, may request and the request shall be granted, for further discussion and an additional opportunity to provide direction to staff or direct that a matter be or not be considered in a regular council meeting.
- The request for information by three (3) or less councilmembers shall be held in abeyance and/or placed on a subsequent work session or pre-meeting at the request of at least two (2) of the councilmembers who were not in attendance for the vote of three (3) or less councilmembers.
- The Mayor or Vice Mayor shall have discretion, as the chair of the pre-meeting or work session, to modify these guidelines based upon the circumstances surrounding the agenda items, e.g. the person who requested the agenda item was ill and could not attend the meeting, etc.

The above are suggestions for discussion, but other alternative guidelines or rules can be discussed and adopted as determined by the Council.

MEMO TO: J. Carter Napier, City Manager

Liz Becher, Community Development Director

Andrew Beamer, Dublic G. FROM:

Andrew Beamer, Public Services Director

M. Jeremy Yates, MPO Supervisor my

SUBJECT: Construction Options to Convert Downtown Casper Streets from One-Way to Two-

Way Traffic Flow

Meeting Type & Date: Council Work Session Meeting, March 8, 2022.

Action Type: Direction Requested

Recommendation: That Council approve one of the following options to fund the conversion of downtown Casper's one-way streets to a two-way traffic flow.

### Summary:

Previously at the City Council Work session on October 12, 2021, Council had asked for construction options for converting downtown Casper's one-way streets to a two-way traffic pattern. Recently completed, the MPO's Downtown Casper One-Way to Two-Way Conversion Study evaluated existing conditions for downtown Casper including traffic volumes, traffic operations, traffic safety, multimodal accessibility, parking, and examined the effects of converting Durbin Street, Wolcott Street and the connecting blocks of C Street and Midwest Avenue back to a two-way flow.

Weaknesses in the current street design were recognized as early as 1991. The Casper Downtown Traffic Study, published in March of that year, points out that the traffic volumes the one-way couplets were designed to accommodate never materialized. Subsequent reports from the last 30 years have all made recommendations to re-convert Durbin & Wolcott into their original two-way design. However, a comprehensive traffic study of the issue had never been completed. Additionally, the MPO's most recent Long Range Transportation Plan Update, Connecting Crossroads, identified the conversion as a priority project. Additionally, as identified in the report evidence suggests, and is presented via case studies in the final report, downtown one-way streets have a history of damaging downtown retail spaces, and conversions to two-way traffic conversions have a beneficial effect on property values.

To convert Durbin and Wolcott Streets to two-way flow within the study area would cost an estimated one hundred fifty thousand dollars (\$150,000.00) per block with a traffic signal modification and fifty thousand dollars (\$50,000.00) per block without a traffic signal. Given the layout of the downtown one-way streets, the City has options on how to proceed should they decide to move forward with the conversion. However, the total cost to convert the entire one-way

network in downtown Casper, as estimated by our consultants last year, is seven hundred fifty thousand dollars (\$750,000.00).

This cost estimate includes new street signs, modification of traffic signals (e.g. poles, mast arms, and signal indications), pavement markings, and minor streetscape (e.g. ADA ramp improvements or channelization removal). No right-of-way acquisition or utility relocation costs are anticipated with this project. However, the cost estimates we drafted for the study do not include streetscape elements (e.g. lighting) or resurfacing of the roadway.

The City could phase the project and do half of the study area at a time at a cost of approximately three hundred seventy five thousand dollars (\$375,000.00) per phase. The study evaluated several different street cross-sections for the converted streets. Overwhelmingly, public response favored those cross sections that **did not** displace parking. The final recommended cross sections also included buffered bike lanes to continue to enhance the bicycle network in Casper. Differences between the cross sections (i.e. having buffered bike lanes or not) should have minimal impact to final project costs as they do not require any additional right-of-way acquisition and the recommended bike lanes are buffered by striping. Final lane design, regardless of the number of lanes, diagonal or parallel on-street parking, or the inclusion or exclusion of bicycle lanes will have minimal impact on project cost. Final lane considerations will be vetted during final design in consultation with local business owners and Casper City Council.

### **Financial Considerations:**

No fund has been identified for this capital expense.

### Oversight/Project Responsibility:

Andrew Beamer, Public Services Director and M. Jeremy Yates, MPO Supervisor, in partnership with the Casper Streets Division and downtown merchants will oversee the project.

### Attachments:

Downtown Casper One-Way to Two-Way Conversion Study





echnical Report

# Downtown Casper One-Way to Two-Way Conversion Study

October 2021





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## **Appendices:**

- **A: Traffic Count Reports**
- **B: Traffic Capacity Analysis (Synchro) Worksheets**
- C: Crash Data
- **D: Literature Review**
- E. Concept Plan
- F. Cost Estimate Work Sheets
- **G. Summary of Public Comments**

## INTRODUCTION

The purpose of this report is to document the evaluation of the current performance of Durbin & Wolcott Streets in downtown Casper for overall network operational performance measures. A review of existing conditions included roadway geometry, traffic operations, traffic safety, business access, parking, and transit, pedestrian, and bicycle accessibility. This report discusses existing conditions under one-way traffic to aid the City Council in discussing their goals for downtown Casper.

# PROJECT HISTORY

Originally, Durbin and Wolcott Streets were configured to provide two-way traffic flow; however, in the 1970's, as part of a broader effort to revitalize downtown Casper, Durbin and Wolcott Streets were transitioned to one-way streets. This was consistent with national trends that recommended the conversion of two-way streets to one-way streets to expedite the movement of more vehicular traffic through the downtown area. The existing roadway configuration consists of northbound traffic along Durbin Street and southbound traffic along Wolcott Street. Previous studies (described later in this report) recommended the conversion back to two-way operations, and this study provides an updated analysis of the feasibility and costs of two-way alternatives for Durbin and Wolcott streets. Public and stakeholder concerns about the impact of two-way operations on overall downtown Casper are addressed in this report as well.

# TRANSPORTATION GOALS AND OBJECTIVES

Durbin and Wolcott Streets provide access to shopping and businesses in the downtown area, as well as employment and activity centers. The one-way couplet also serves transit, walking trips, and provides public space and short-term parking. *Connecting Crossroads*, the Casper Area MPO's long-range transportation plan, states that "One-way streets have a history of damaging downtown retail. The higher speeds of one-way streets detract from the experience of walking along them and makes drivers less likely to notice or stop at adjacent retail. While there are exceptions, successful commercial activity is typically located on two-way streets".

Connecting Crossroads identifies that Wolcott and Durbin Streets are ideal candidates for two-way conversion as they go through the heart of downtown Casper and intersect with ongoing or planned improvements to 2nd Street and the Casper Rail Trail. The conversion of Wolcott and Durbin Streets from one-way to two-way streets is marked as a near-term priority project. Transportation goals that appear in the 2020 Long-Range Plan include:

- Increase transportation options for all modes.
- Improve health and safety of all residents.
- Enhance the region's distinct character.
- Support the region's diversifying economy.
- Promote affordable and easy mobility solutions.

# **EXISTING CONDITIONS**

Existing conditions were documented through desktop and field inventories and conversations with City staff. On Durbin and Wolcott Streets in the study area, the speed limit is 20 miles per hour. The study area consists of the following streets and eleven intersections, as shown in **Figure 1**.

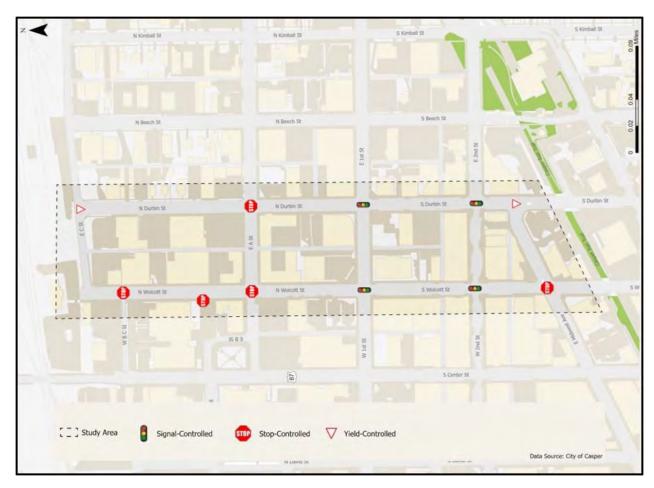


FIGURE 1: STUDY AREA

The study intersections include:

- N. Durbin Street and E. C Street
- N. Durbin Street and E. A Street
- N. Durbin Street and E. 1st Street
- S. Durbin Street and E. 2<sup>nd</sup> Street
- S. Durbin Street and E. Midwest Avenue
- N. Wolcott Street and W. B C Street

- N. Wolcott Street and E. B Street
- N. Wolcott Street and E. A Street
- N. Wolcott Street and E. 1<sup>st</sup> Street
- S. Wolcott Street and E. 2<sup>nd</sup> Street
- S. Wolcott Street and E. Midwest Ave

Typical sections of Durbin and Wolcott Streets are shown below in **Figures 2 and 3**. Durbin Street has three northbound travel lanes with parallel parking on each side of the street. Wolcott Street has three southbound travel lanes with parallel parking on the east side of the street and perpendicular parking on the west side of the street.

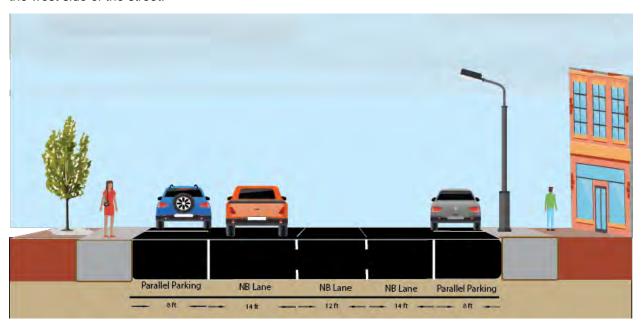


FIGURE 2: DURBIN STREET TYPICAL SECTION

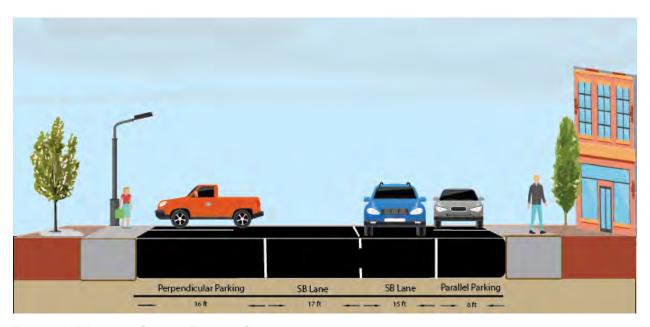


FIGURE 3: WOLCOTT STREET TYPICAL SECTION

# LAND USE

Land use in downtown Casper is primarily classified as the Central Business District and is developed with retail and business space. Retail and business space is concentrated around 1<sup>st</sup> and 2<sup>nd</sup> Streets and is less dense at the northern end of the study area. There are also Federal buildings located adjacent to the study area, such as the Natrona County Courthouse and the Dick Cheney Federal Building. Different land uses, plus density or mix of uses, can have direct impacts on travel patterns, such as the amount of new vehicle trips or mode of travel. One of the *Connecting Crossroads* goals, "enhance the region's distinct character", identifies that adopting a land use pattern that reduces urban sprawl will protect cultural and natural resources. **Figure 4** shows the existing land use in the downtown Casper area.

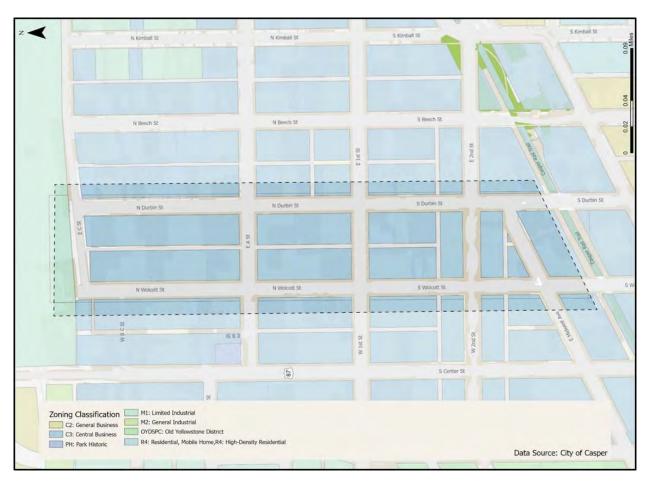


FIGURE 4: EXISTING LAND USE IN DOWNTOWN CASPER

# REVIEW OF PREVIOUS STUDIES AND TWO-WAY CONVERSION CASE STUDIES

Numerous prior studies were reviewed that pertain to the study area and project. The studies ranged from comprehensive plans to parking studies and bikeway plans. Many studies reviewed the current one-way traffic pattern on Durbin and Wolcott Streets and recommended the conversion back to two-way traffic operations, including the 1991 Casper Downtown Traffic Study, 2001 Downtown Traffic and Parking Study, and 2009 Casper Streets Enhancement Study.

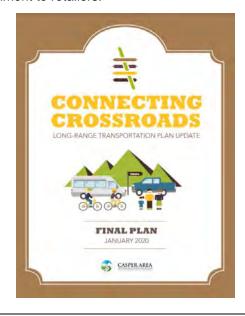
Long range and comprehensive plans for the Casper area highlight two-way street conversions as priority projects. Streets with 70' to 100' feet of roadway widths are identified as barriers to connectivity; one-way street couplets often fall within this range. Reallocating the roadway space to reduce the number of travel lanes (e.g. road diets), extending bike lanes, and improving the streetscape would improve connectivity of the area. Planned improvements to the roadway network in the Casper Area include a traffic calming policy, pedestrian infrastructure, and increasing transit frequency.

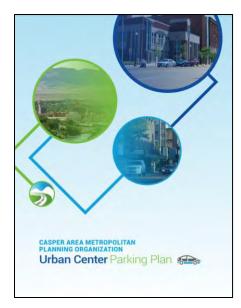
The 2018 *Urban Center Parking Plan* showed that even during peak periods, the overall demand never exceeds 50% of the parking supply, which also supports the conclusion that excess roadway space exists and can and should be reduced to create a more connected transportation network for all users.

The 2013 Casper Area Trails and Bikeway Plan focused on improvements that will benefit pedestrians and other roadway users. The current one-way couplet in the study area promotes higher vehicle speeds, which disincentivizes walking and biking. Other issues cited by the report that can be fixed with a two-way street conversion include sidewalks directly adjacent to roadways, sidewalk gaps, and inconsistent signage and curb ramp design.

The 2009 Casper Streets Enhancement Study addresses the Durbin-Wolcott one-way couplet and identifies that both streets are major connectors from residential to downtown areas. This study also identifies resident concerns that adequate warning and wayfinding signs are not provided for the one-way streets. The removal of the one-way streets is justified by the fact that there is not enough traffic and a lack of logical terminus points to support the current street layout.

In general, these reports favor a two-way network based on its advantages to connectivity and roadway safety. Two-way streets were also more consistent with the City Council goals to provide a more pedestrian-friendly environment, more direct access to businesses, and a more attractive streetscape environment to retailers.





## TRAFFIC VOLUMES

Historical and current traffic volumes were collected from the Casper Area MPO and traffic counts performed in June 2021, respectively. These volumes were compared to document any trends in traffic growth. **Figure 5** shows the annual average daily traffic (AADT) volumes for each roadway in 2020.



FIGURE 5: AVERAGE DAILY TRAFFIC IN STUDY AREA (2020)

Daily traffic volumes in the study area have decreased over the past 10 years. Any recent drop-off in traffic volumes may be due to the COVID-19 pandemic, during which many people worked from home, reducing the number of vehicles on the roadway; this would especially be true in a central business district. Other regional/national factors may also contribute to the decline in traffic volumes, such as the economy, gas prices, and/or increased density and walking/biking/transit trips. **Figures 6 and 7** display the AADT trends from 2011 - 2021.



FIGURE 6: AADT TRENDS OF E-W STREETS IN STUDY AREA

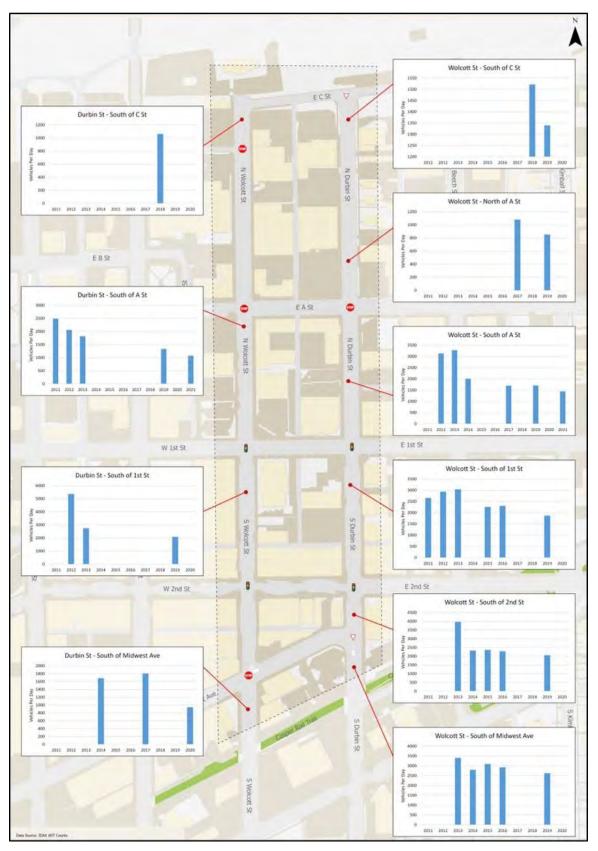


FIGURE 7: AADT TRENDS OF DURBIN AND WOLCOTT STREETS

**Figures 8 and 9** show the June 2021 AM and PM peak hour volumes for the study intersections. Vehicles were counted in the morning from 7:00-9:00 AM and vehicles were counted in the afternoon from 4:00-6:00 PM; individual intersection peaks ranged within the two hours that were counted. The data indicates the PM peak hour is slightly higher than AM peak at the study intersections, which is typical in a business district due to increased traffic related to commercial land uses. Although the counts were taken when schools were not in session, the influence of school-related traffic in the downtown area is minimal as there are no schools located within or near the study area. Full traffic count reports are included in **Appendix A**.

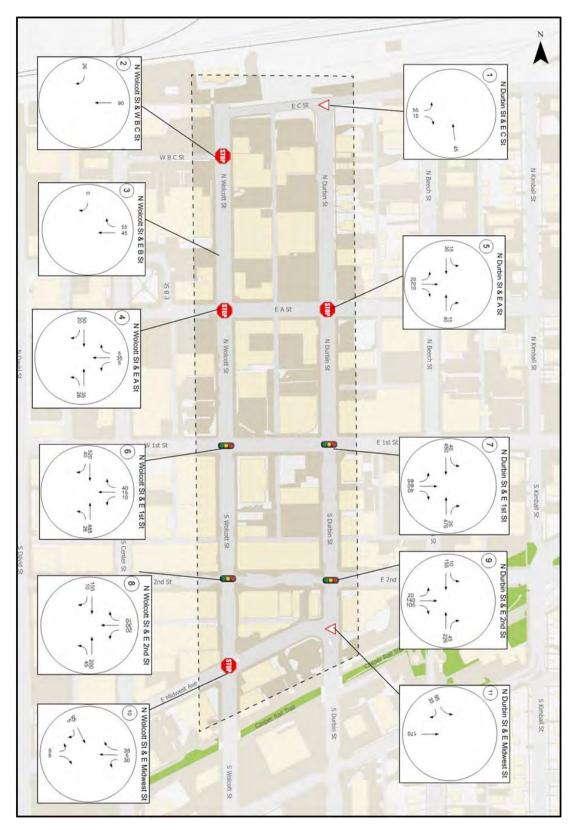


FIGURE 8: AM PEAK HOUR VOLUME

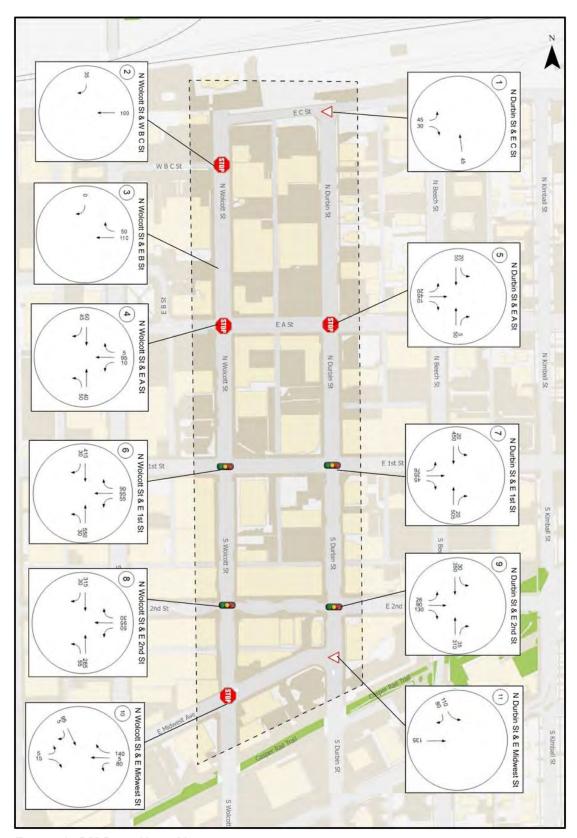


FIGURE 9: PM PEAK HOUR VOLUMES

**Figure 10** shows the 2021 total volumes for all pedestrians entering and crossing at least one crosswalk at each of the study intersections. The sum of the AM and PM peak hours are presented to display the increased pedestrian activity near the shops and businesses on 2<sup>nd</sup> Street. The intersections on 2<sup>nd</sup> Street are the only ones in the study area with greater than 100 total pedestrians crossing per hour. The increased pedestrian activity on 2<sup>nd</sup> Street may be correlated to the increased density of shopping and restaurants as well as nearby parking garages and can have a direct impact on traffic operations due to the potential conflicts with vehicles and need for longer walk intervals.



FIGURE 10: TOTAL PEDESTRIAN VOLUMES, AM AND PM PEAK HOURS

## VEHICLE SPEEDS AND CLASSIFICATION

Vehicle speeds and classifications were also collected along Durbin and Wolcott Streets during June 2021 for a 24-hour period. Approximately 63% of vehicles on Durbin Street and 75% of vehicles on Wolcott Street are traveling within 5 mph of the posted speed limit (20 MPH). However about 5% of vehicles on Durbin and 2% of vehicles on Wolcott are traveling at more than 10 MPH above the posted speed limit. **Figures 11 and 12** show the distribution of vehicle speeds on Durbin and Wolcott Streets.

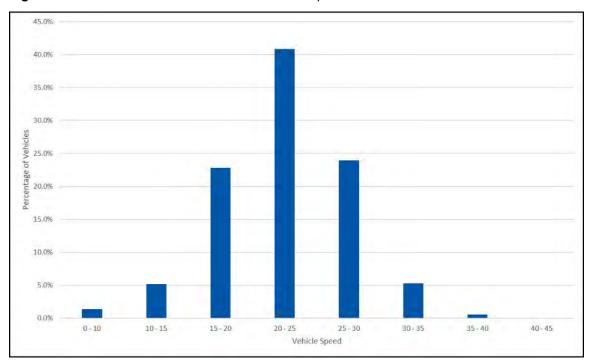


FIGURE 11: VEHICLE SPEED DISTRIBUTION, DURBIN STREET

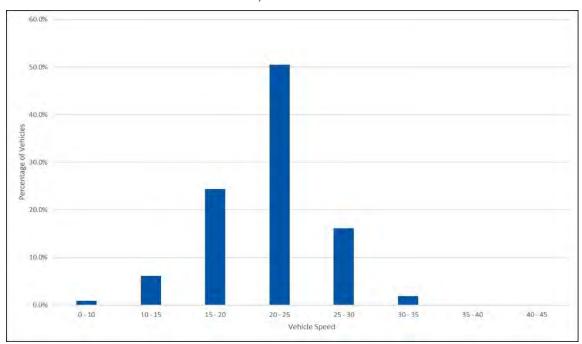


FIGURE 12: VEHICLE SPEED DISTRIBUTION, WOLCOTT STREET

Vehicle classification in the study area was approximately 75% Classes 1-3, which are motorcycles, passenger cars, and single unit trucks (four tires). The remaining 25% was comprised of heavy vehicles (e.g. Single unit and single and double trailer trucks), which are Classes 5-13; most of that 25% was Class 5 trucks, which are two-axle, six tire, single unit trucks. A negligible number of buses were observed in the study area (Class 4). **Figures 13 and 14** show the vehicle classification breakdown in the study area.

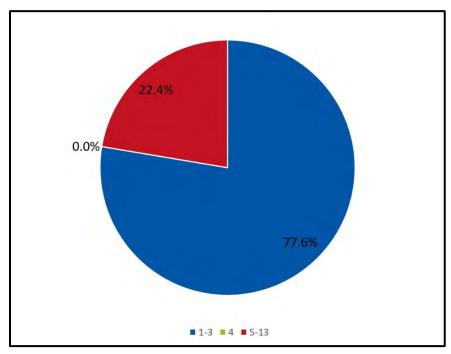


FIGURE 13: VEHICLE CLASSIFICATION - DURBIN STREET

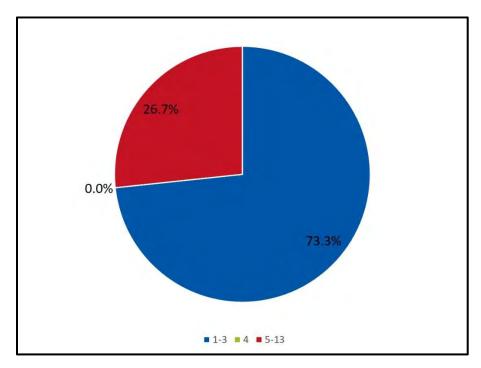


FIGURE 14: VEHICLE CLASSIFICATION - WOLCOTT STREET

## **EXISTING TRAFFIC OPERATIONS ANALYSIS**

A capacity analysis was performed using "Synchro 11" traffic analysis software, which incorporates the methodology of the 6<sup>th</sup> edition of the *Highway Capacity Manual (HCM2000)* for the existing signalized study intersections. HCM2010 methodology was not used since it does not provide all the desired outputs and cannot model intersections without strict NEMA phasing. New Synchro models with 2021 traffic volumes were developed by Mead & Hunt incorporating new traffic volumes, existing roadway geometry/ lane configurations and signal timing data.

Signal timing for 1<sup>st</sup> and 2<sup>nd</sup> Streets was received from the City of Casper and the Wyoming DOT. Cycle lengths, signal phasing, coordination, and pedestrian WALK and DON'T WALK timings were reviewed and input into the Synchro model. The signals operate in a coordinated mode with cycle lengths of 50 seconds in the AM and 100 seconds in the PM on 1<sup>st</sup> Street and 70 seconds on 2<sup>nd</sup> Street in the AM and PM rush hours. Signal coordination primarily favors east-west traffic during peak hours. Measures of performance include intersection level of service, average vehicle delay and volume-to-capacity ratios.

Level of Service (LOS) is a qualitative measure describing operational conditions of an intersection or any other transportation facility. LOS measures the quality of traffic service, and may be determined for intersections, roadway segments, or arterial corridors on the basis of delay, congested speed, volume to capacity (v/c) ratio, or vehicle density by functional class. At intersections, LOS is a letter designation that corresponds to a certain range of roadway operating conditions. The levels of service range from 'A' to 'F', with 'A' indicating the best operating conditions and 'F' indicating the worst, or a failing, operating condition.

The *volume-to-capacity ratio* (*v/c ratio*) is the ratio of current flow rate to the capacity of the intersection. This ratio is often used to determine how sufficient capacity is on a given roadway. Generally speaking, a ratio of 1.0 indicates that the roadway is operating at capacity. A ratio of greater than 1.0 indicates that the facility is operating above capacity as the number of vehicles exceeds the roadway capacity.

Delay (Control delay) is the portion of delay attributed to traffic signal operation for signalized intersections. Control delay (overall delay) can be categorized into deceleration delay, stopped delay, and acceleration delay.

Both a typical AM and PM peak hour were analyzed in Synchro. The results of the analysis for the existing one-way traffic operations are summarized in **Figure 15** and **Table 1**, full Synchro reports are included in **Appendix C**. As shown in the table and figure, each intersection performs at an overall acceptable level of service during the AM and PM peak hours; no intersection had an overall level of service that was below a LOS B. Some individual approach movements are LOS C or D, which are attributed to signal timing patterns. The existing 2021 one-way analysis does not show any failing intersections or intersection movements.



FIGURE 15: INTERSECTION LEVEL OF SERVICE (LOS) FOR EXISTING 2021 ONE-WAY TRAFFIC

TABLE 1: SUMMARY OF CAPACITY ANALYSIS (2021 EXISTING ONE-WAY TRAFFIC)

#	Intersection	Control	Approach	Existing – AM(PM)			
			7 10000				
1	N Durbin St @ E C St	Yield	WB	B (B)	10.5 (10.1)	0.08 (0.07)	
	TV Buildin of @ E o of	11010	NB	A (A)	5.8 (4.4)	0.04 (0.03)	
2	N Wolcott St @ W B C St	Stop	EB	A (A)	8.7 (8.8)	0.03 (0.04)	
_	11 110,000 Ct (2 11 2 0 0t	Ctop	SB	A (A)	0 (0)	- (-)	
3	N Wolcott St @ E B St	None	SB	A (A)	0 (0)	- (-)	
			Overall	A (A)	7.5 (8)	- (-)	
4	N Wolcott St @ E A St	AWSC	EB	A (A)	8.2 (8.8)	0.12 (0.18)	
·			WB	A (A)	7.1 (7.6)	0.05 (0.1)	
			SB	A (A)	6.9 (7.5)	0.04 (0.11)	
5	N Durbin St @ E A St	TWSC	EB	B (B)	10.3 (10)	0.05 (0.06)	

			WB	B (A)	10.1 (9.8)	0.06 (0.04)
			NB	A (A)	1.6 (2.2)	0.02 (0.02)
			Overall	A (A)	3.6 (7.3)	0.24 (0.26)
6	N Wolcott St @ E 1st St	Signal	EB	A (A)	2.2 (3.4)	0.25 (0.20)
	14 WOISSIL OL @ E 1 OL	Olgiliai	WB	A (A)	1.7 (2.3)	0.22 (0.25)
			SB	C (C)	29.9 (26.6)	0.10 (0.31)
			Overall	A (A)	5.8 (6.1)	0.22 (0.23)
7	N Durbin St @ E 1 <sup>st</sup> St	Signal	EB	A (A)	1.1 (2.3)	0.20 (0.20)
,	N Daibiii ot & E i ot	Olgilai	WB	A (A)	3.2 (3.2)	0.22 (0.24)
			NB	C (C)	27.3 (27.3)	0.22 (0.20)
	N Wolcott St @ E 2 <sup>nd</sup> St	Signal	Overall	A (A)	4.7 (9.2)	0.25 (0.33)
8			EB	A (A)	3.9 (4.6)	0.17 (0.28)
			WB	A (A)	2.2 (3.1)	0.27 (0.32)
			SB	B (C)	17.3 (30.3)	0.14 (0.38)
		Signal	Overall	A (B)	9.7 (14.2)	0.24 (0.34)
9	N Durbin St @ E 2 <sup>nd</sup> St		EB	A (A)	4.4 (3.3)	0.19 (0.35)
J	TV Building CC & E. Z. Ot	Olgiliai	WB	A (A)	6.3 (4.1)	0.25 (0.27)
			NB	B (D)	16.4 (45.5)	0.21 (0.29)
	NIWALAN OF STATE		EB	B (B)	10.6 (13.8)	0.15 (0.24)
10	N Wolcott St @ E Midwest Ave	TWSC	NB	A (A)	3.7 (2)	0 (0.01)
	-		SB	A (A)	3.1 (2.6)	0.03 (0.11)
11	N Durbin St @ E Midwest Ave	Yield	EB	A (A)	5.4 (4.3)	0.07 (0.09)
''	TO DOISH OF SE INHOWEST AVE	Holu	NB	B (B)	13.3 (13.9)	0.32 (0.3)
	TWSC= two way s	stop control	, AWSC = A	ll Way Stop	Control	

#### **CRASH HISTORY**

The crash analysis is based on data provided by the City of Casper for the period from 2016 to 2020. There was a total of 114 police-reported collisions within the study area. **Table 2** summarizes the crash data, detailed crash reports are included in **Appendix C**.

TABLE 2: SUMMARY OF CRASH DATA (2016-2020)

Crash Type	# Crashes	Year	# Crashes	Illumination	# Crashes
Angle	48	2016	22	Darkness Lighted	12
Rear End	22	2017	30	Darkness Unlighted	1
Rear to Front/Side	25	2018	18	Daylight	94
Sideswipe	9	2019	17	Dusk	6
Other	10	2020	27	Unknown	1
Severity		# Crashes	Roa	dway Conditions	# Crashes
Property Dama	age	97		73	
Injury	13		Ice/Frost		
Fatality	0		16		
Pedestrian	4		9		

- 22 crashes occurred in 2016, 20 occurred in 2017, 18 occurred in 2018, 17 occurred in 2019, and 27 occurred in 2020.
- 85% of the crashes resulted in property damage only. Thirteen crashes (11%) resulted in an injury. There were no fatalities.
- The most frequent collision types were angled collisions and rear to front/side, with 48 and 25 crashes, respectively.
- Four crashes involving a pedestrian occurred during this period.
- 32 crashes occurred in icy/snowy conditions, and 73 crashes occurred in dry conditions.
- 19 (17%) of crashes occurred at during dusk/dark conditions.
- There were 5 crashes where alcohol was involved and 2 crashes where drugs were involved

**Figure 16** shows the collisions that occurred within the study area along with the most frequent collision type. Crashes in the study area are concentrated around 1<sup>st</sup> and 2<sup>nd</sup> streets; there are higher ADTs on these streets, as well as more concentrated retail/ business space. While no specific crash pattern is directly attributed to the one-way street pattern, notable trends include a predominant angle crash types at 1<sup>st</sup> Street and Wolcott and Durbin along with 3 pedestrian crashes at Durbin and 1st.

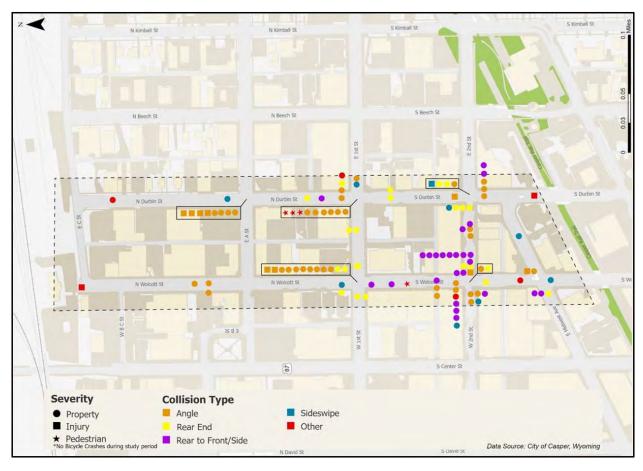


FIGURE 16: MAP OF CRASH LOCATIONS IN STUDY AREA (2016-2020)

# PEDESTRIAN AND BICYCLE INFRASTRUCTURE

Pedestrian infrastructure on Durbin and Wolcott Streets is shown in **Figure 17**. Sidewalks are located throughout the study area, with C Street being the exception. Most intersections also have marked crosswalks. There are no crosswalks on the C Street intersections, and no crosswalks at Wolcott Street and B or C Street or Durbin Street and Midwest Avenue. The signalized intersections (Durbin/Wolcott Streets at 1<sup>st</sup> Street and 2<sup>nd</sup> Street) have pedestrian signal indications and the signals on 2<sup>nd</sup> Street have audible signals and push buttons. All study intersections have ADA ramps, with the exceptions being the intersections on C Street and Wolcott Street and B and C Streets. There is one bike path south of the study area (Casper Area Rail Trail), but there are no designated bike lanes or signs are provided within the study area.

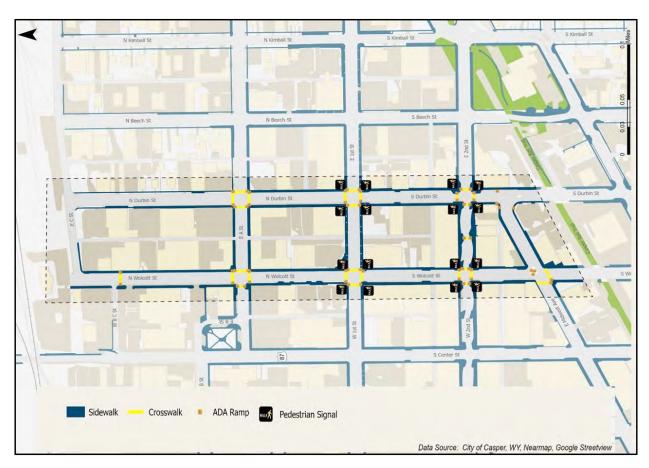


FIGURE 17: MAP OF PEDESTRIAN INFRASTRUCTURE

It is important to note that pedestrians experience one-way streets and two-way streets differently. When crossing a two-way street, pedestrians must be aware of traffic flowing in two different directions and watch for right- and left-turning vehicles. On a one-way street, pedestrians can focus on traffic approaching from only one direction. Conflicts with turning vehicles may also be eliminated for pedestrians crossing the near approach of a one-way street (i.e. pedestrians crossing the west leg of an eastbound one-way street are only in conflict with eastbound traffic.)

# **TRANSIT**

The Casper area is served by the Casper Area Link, which are fixed-route bus routes operated by the City of Casper. The Green line runs through the study area, with one stop at Wolcott and A Street. There is a transit center just outside of the study area at Beech Street and 2<sup>nd</sup> Street that serves the Green, Yellow, Red, and Blue lines. **Figure 18** shows a map of the existing transit in the study area. The city of Casper also operates a door-to-door service called "Assist - Casper Area Transit Assist Dial-A-Ride".



FIGURE 18: TRANSIT ROUTES IN STUDY AREA

# **PARKING**

On-street parking in the study area consists of both parallel and angled parking spots and is time restricted; parking is limited to once-daily, 2-hour parking. On-street parking is also prohibited from 3-6 AM, seven days a week. Off-street parking is available in various surface lots and garages, and parking rates vary by lot/garage. **Figure 19** shows the parking regulations and **Figure 20** shows the on-street parking utilization and the number of on-street parking spots. As shown in these figures, public parking is available along both blocks. The parking around retail and business space on 1<sup>st</sup> and 2<sup>nd</sup> Streets is the highest-utilized parking in the study area. Parking utilization has declined in the past year, which may be attributed to the COVID-19 pandemic and more people choosing to shop online and work from home.



FIGURE 19: ON-STREET PARKING REGULATIONS

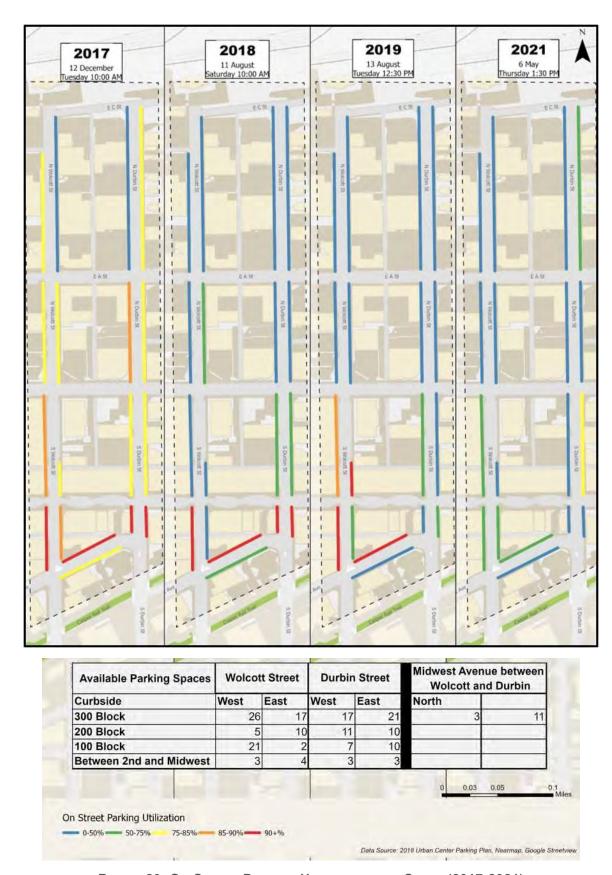


FIGURE 20: ON-STREET PARKING UTILIZATION AND SPOTS (2017-2021)

#### FIELD OBSERVATIONS

A Professional Traffic Engineer observed the study area on June 30<sup>th</sup> (typical weekday) - specifically focusing on driver behavior, traffic patterns, geometry, risky behaviors, vehicle queues, signage, and overall traffic operations. The following summarizes the observations that may be important to the study.



Open On-Street Parking Spaces - Wolcott St

Durbin St and Wolcott St have free on-street parking on both sides of the street, allowing drivers to park in front of or very close to their destination. On-street parking regulation signs are located on every block, notifying visitors that there is a two-hour parking limit from 8 AM-5 PM Monday through Friday. There are no limits to on-street parking on holidays and weekends. The parking supply exceeds the demand for parking in the study area; on-street parking was not at full capacity at the time of the field visit.

Limited wayfinding signs in the study area are present. Green and white parking signs direct drivers to off-street parking. A wayfinding sign on the corner of Wolcott St and E. 2<sup>nd</sup> St points drivers in the direction of popular tourist attractions. Additional signs are located throughout the study area denoting other community destinations such as the Natrona County library, and federal buildings. Each intersection with an east-west street in the study area has multiple signs to warn drivers of the one-way north-south streets. Despite the signs, it is not uncommon for drivers to turn the wrong way down the one-way streets. At the public meeting it was brought up that some locals go the wrong way on Durbin and Wolcott Streets, not just out-of-town visitors.

Pedestrian signal indications are present at every intersection controlled by a traffic signal within the study area. The traffic signals along E. 2<sup>nd</sup> Street provide accessible and audible pedestrian signals. E. 2<sup>nd</sup> Street is populated by shops and restaurants making it a popular destination for tourists and locals.



Wayfinding and One-Way Sign - Intersection of Wolcott and E 2nd St

#### **EXISTING CONDITIONS SUMMARY**

Durbin and Wolcott Streets are a one-way couplet located in Downtown Casper, WY. Prior studies have recommended the conversion back to two-way traffic operations to align with goals set by the Casper Area MPO. Key findings include

- The study area is classified as a central business district; however, the overall daily traffic in the study area has declined over the past 10 years, as has the parking utilization. PM peak hour volumes are higher than the AM peak, and pedestrian volumes are concentrated around 1<sup>st</sup> and 2<sup>nd</sup> Streets, where more shops and businesses are concentrated.
- Between 60-75% of vehicle speeds were within 5 mph of the posted speed limit, and approximately 75% of the vehicles in the study area were passenger cars, motorcycles, or small trucks.
- The existing level of service is acceptable at all intersections in the study area, performing at an LOS C or higher.
- Crashes in the study area are primarily angle crashes, with most crashes resulting in only property damage.
- Overall, the pedestrian infrastructure is mostly complete, while the bicycle infrastructure is incomplete.

This information presents a technical foundation for discussing the City's goals for Durbin and Wolcott Streets and Downtown Casper (increase transportation options for all modes, improve health and safety of all residents, enhance the region's distinct character, support the region's diversifying economy, promote affordable and easy mobility solutions). The next phase of this study is to develop alternatives for two-way street cross sections based on the goals outlined by the Casper Area MPO and *Connecting Crossroads* Transportation Plan, and to determine approximate costs associated with recommended improvements.

# LITERATURE REVIEW OF TWO-WAY CONVERSIONS

## CASE STUDIES

Many cities have recently contemplated and implemented street conversions from one-way to two-way traffic patterns for varying reasons. In many of these communities, after conversion traffic speeds decreased, traffic crashes dropped, crime decreased, and property values rose. A few notable case studies are presented below. A full literature review is included in Appendix D.

STREET	ADT	YEAR CONVERTED TO TWO- WAY	PRIMARY REASON FOR CONVERSION	RESULTS
Kings Street – Charleston, SC	11,500 (1994)	1994	Commercial and economic benefit of downtown Charleston	<ul> <li>Frequency and quality of business increased post conversion</li> <li>Conversion induced a positive change in commercial property values</li> </ul>

STREET	ADT	YEAR CONVERTED TO TWO- WAY	PRIMARY REASON FOR CONVERSION	RESULTS
Brook & First Street - Louisville, KY	8,900 (Brook 2009); 7,700 (Brook 2013); 3,650 (First 2009); 5,700 (First 2013)	2011 Converted to a single lane in each direction with bike lane	Downtown Revitalization with a focus to establish more desirable residential neighborhoods	Pre- vs. post- conversion analysis revealed:  • 23% drop in crime  • Brook St: 36% reduction in collisions  • First St: 60% reduction in collisions  • Brook St: 39% increase in property values
North & Main Street – Old Town Fairfax, VA	17,000 (2005); 12,000 (Main 2013); 22,000 (North 2013)	2006	Downtown Revitalization including a pedestrian- friendly downtown	<ul> <li>Speeds increased post conversion by 2-4 MPH</li> <li>Daily traffic volumes decreased</li> <li>Conversion spurred redevelopment that also increased parking four-fold</li> </ul>
Second Avenue – Midtown of Detroit, MI	No data available	2014 Four lanes to one in each direction, a center turn lanes, and buffed bicycle lane in each direction	Traffic calming to create a broader walkable urban district and revitalized a deteriorated corridor	Anecdotal:  Reduce confusion to visitors Feels more like a slower paced residential street Encourages more bike riding Negatively impacted parking and access to a restaurant

STREET	ADT	YEAR CONVERTED TO TWO- WAY	PRIMARY REASON FOR CONVERSION	RESULTS
Vine Street – Cincinnati, OH  Central Parkway to McMiken Avenue, 0.7 miles	No data available	1975 Converted to one-way; 1999 Converted to two-way	To stimulate and support increased business activity; 40% of the businesses on Vine St closed after the 1975 conversion to one-way	<ul> <li>Post two-way conversion, traffic volumes decreased by 28%</li> <li>Average crashes per year were <ul> <li>212 prior to 1975,</li> <li>102 from 1975-1999</li> <li>164 post 1999</li> </ul> </li> <li>Post two-way conversion, travel time as doubled from 2 minutes to 4.5 minutes</li> <li>Post two-way conversion, average speed decreased from 18 to 12 mph</li> </ul>

## **ECONOMIC IMPACT**

Most of the communities surveyed have benefited economically from converting downtown business districts from one-way traffic patterns to two-way traffic patterns. Notably, King Street in Charleston, SC and Main Street in Fairfax, VA saw the frequency and number of new business/ developments increase. Other research and publications<sup>1, 2</sup> have provided more quantifiable statistics for two-way conversations such as:

- A 20% increase in jobs along Hennepin Avenue and 1<sup>st</sup> Street in Minneapolis, MN post-converstion<sup>1</sup>
- An 18% increase in household income in the conversion areas in Vancouver Washington, 14% increase in household income in Louisville, KY, an 18% increase in household income in Des Moines, IA and a 21% increase in household income in Austin, TX
- A 15% increase in housing units in the conversion area in Des Moines and 36% in Austin
- Along Vanderbilt Avenue in Brooklyn, retail sales increased by 102 percent over three years post-improvement, the study found, compared with 64 percent for the neighborhood and 18 percent for the borough as a whole.

- 1 Two-Way Street Conversions Are a Mixed Economic Blessing Bloomberg
- 2 Will two-way streets bring success to South Bend? (southbendtribune.com)

# PUBLIC INVOLVEMENT

To solicit community and stakeholder input, a public open house was held on June 30, 2021, at the Atrium in downtown Casper. Meeting announcements were posted on the MPO and City website and on social media channels. The meeting included a short presentation on the study purpose and goals and objectives, plus existing data and conditions, followed by an open house with roll plans and posters of the study area and transportation data. Five people attended. The attendees were asked to provide feedback on the existing conditions findings and offer ideas on improving Downtown Casper streets.

#### Comments included:

- One-way traffic pattern is not popular with tourists
- One-way traffic pattern pushes people away from downtown
- Consider left-turn arrows at signals under two-way traffic conditions
- Ensure any proposed bike lanes connect to other existing bike lanes
- Ensure two-way traffic patterns do not exacerbate congestion and queueing on east-west streets (e.g. 1<sup>st</sup> and 2<sup>nd</sup> Streets) between Kimble Street to Park Street where rush hour queuing sometimes occurs
- Ensure two-way traffic patterns do not impact storefront loading and unloading, specifically at the self-storage facility

# STAKEHOLDER SURVEY RESULTS

Property owners, business owners, property managers and other stakeholders were invited to a meeting on July 28<sup>th</sup>, 2021, to discuss a range of alternative street designs for two-way traffic flows. At the beginning of the discussion, attendees were asked to write down any word that came to mind when they thought about downtown Casper streets. A word cloud was generated from the stakeholder input. As seen in **Figure 21**, the most common words are parking, capacity, restaurants and inconvenient. These most commonly used words reflect the perception of high street capacity for moving cars, desire for plentiful onstreet parking, strong presence of retail land uses, and the additional turns required in a one-way street pattern to reach each destination being viewed as inconvenient.



FIGURE 21: WORD CLOUD PRODUCED BY ATTENDEES OF DOWNTOWN CASPER STAKEHOLDER MEETING

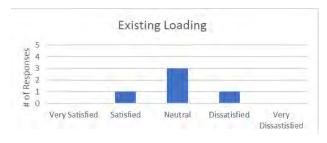
After the word cloud, the participants were asked to rank their opinions from Very Satisfied to Very Dissatisfied on a range of topics regarding street patterns in downtown Casper. The topics were parking, loading, traffic safety, traffic congestion, streetscape, walkability, bikeability, and access to business. The participants were asked to do this for the existing one-way condition of Durbin St and Wolcott St, as well as the proposed two-way conditions. **Figures 22 through 29** show the results of the poll. The results of the poll indicate that conversion from one-way to two-way traffic flow would result in a favorable view of traffic safety, traffic congestion, walkability, bikeability and access to businesses. The change in street patterns from one-way to two-way would not significantly change opinions about parking and loading.

Figure 22: Parking Perception





FIGURE 23: LOADING PERCEPTION



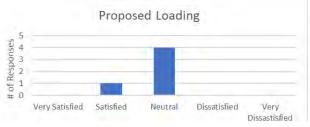


FIGURE 24: TRAFFIC SAFETY PERCEPTION



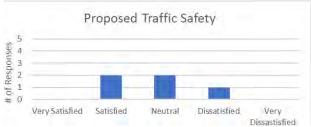
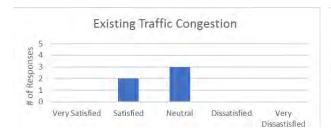


FIGURE 25: TRAFFIC CONGESTION PERCEPTION



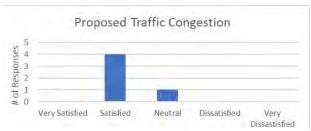
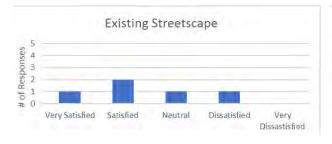


FIGURE 26: STREETSCAPE PERCEPTION



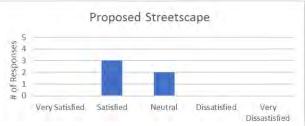
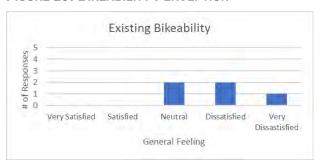


FIGURE 27: WALKABILITY PERCEPTION





FIGURE 28: BIKEABILITY PERCEPTION



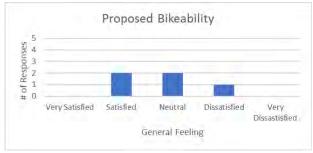
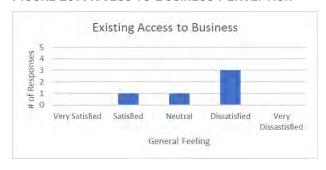
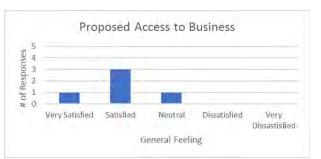


FIGURE 29: ACCESS TO BUSINESS PERCEPTION





# ALTERNATIVES DEVELOPMENT

In order to identify the best alternatives for converting Durbin St and Wolcott St to two-way streets, multiple options were developed and screened. The goals of the alternatives are to 1) create a more balanced transportation network in the central business district in downtown Casper, 2) be cost-effective, 3) be feasible and implementable, and 4) respond to community needs. Alternative development was based on input from the MPO, City staff and the public. The alternatives developed and evaluated for this report were based on complete streets principles and include:

- Medians the provision of medians could serve to provide delineation between directions of travel, access management, refuge for pedestrian crossings, as well as streetscaping
- Center and Left-Turn Lanes the provision of two-way center turn and left-turn lanes could enhance safety
- Parking Configuration alternative parking configurations (parallel vs. angled) were considered to repurpose street space



Complete Street example with median, bike lane and left-turn lanes

- Bicycle Lanes various configurations of bicycle lanes were considered, including shared bike lanes, marked/ buffered bike lanes, protected bike lanes, and two-way cycle tracks. Where bicycle facilities are considered, separated bike lanes or shared-use paths as preferred (as shown in
- Figure 30 below). Bike lanes should be separated by vertical barriers wherever possible.

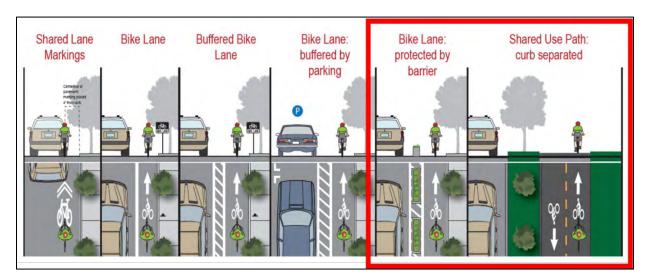


FIGURE 30: BICYCLE FACILITY TYPES

• Traffic Control – evaluation of traffic control changes (multiway stop, flashing beacon, and traffic signals) were also considered to ensure safe and efficient intersection operations.

Two-way alternatives were developed for each of the study streets including Durbin St, Wolcott St, Midwest Ave, and E. C St.

#### **Durbin St Alternative 1 – Two-Way with Large Median**

This alternative would provide one northbound travel lane, one southbound travel lane, and a median up to 16 feet wide. At each intersection, the median would narrow to provide left turn lanes. This alternative retains all existing parallel parking; however, it does not provide dedicated bike lanes, or a center turn lane for mid-block access points.



FIGURE 31: DURBIN ST ALTERNATIVE 1 PROPOSED CROSS SECTION

#### **Durbin St Alternative 2 – Two-Way with Bike Lanes**

This alternative would provide one northbound travel lane, one southbound travel lane, and a bike lane on each side of the street. There would be a horizontal buffer between the travel lanes and the bike lanes. This alternative retains all existing parallel parking. There are no center turn lane or left turn lanes at the intersections.



FIGURE 32: DURBIN ST ALTERNATIVE 2 PROPOSED CROSS SECTION

#### **Durbin St Alternative 3 – Two-Way with Center Turn Lane**

This alternative would provide one northbound travel lane, one southbound travel lane, and one center turn lane. The center turn lane allows for cars to turn into mid-block access points more safely. All existing parallel parking will remain, however, there are no bike lanes in this alternative. The travel lanes in each direction are approximately 16' which may precipitate faster vehicle speeds.



FIGURE 33: DURBIN ST ALTERNATIVE 3 PROPOSED CROSS SECTION

#### Durbin St Alternative 4 - Two-Way with Protected Bike Lanes

This alternative would provide one northbound travel lane, one southbound travel lane, and a small 2-foot median in between. All existing parallel parking will remain; however, it will be shifted from along the curb to allow for bike lanes and a horizontal buffer in each direction. This creates a safer experience for the bicyclists as they do not have ride alongside the driver's side doors. The small median in between the travel lanes does not allow for cars to turn into mid-block access points, and no left turn lanes are provided at the intersections.



FIGURE 34: DURBIN ST ALTERNATIVE 4 PROPOSED CROSS SECTION

#### **Durbin St Alternative 5 – Two-Way with Cycle Track**

This alternative would provide one northbound travel lane, one southbound travel lane, and a 4-foot horizontal buffer between the two lanes. A two-way, vertically protected cycle track is provided between the curb and the northbound parallel parking lane, allowing maximum safety for bikers. This alternative retains all existing parallel parking and allows for turns into mid-block access points but does not provide a left turn lane at the intersections.



FIGURE 35: DURBIN ST ALTERNATIVE 5 PROPOSED CROSS SECTION

## Durbin St Alternative 6 - Two-Way with One-Way Bike Lane

This alternative would provide one northbound travel lane, one southbound travel lane, and one center turn lane. The center turn lane allows for cars to turn into mid-block access points more safely. All existing parallel parking will remain and a one-way (northbound) bike lane with a horizontal buffer will be provided between the parking lane and the travel lane.



FIGURE 36: DURBIN ST ALTERNATIVE 6 PROPOSED CROSS SECTION

## Wolcott St Alternative 1 – Two-Way with Large Median

This alternative would provide one northbound travel lane, one southbound travel lane, and a median up to 16 feet wide. At each intersection, the median would narrow to provide left turn lanes. This alternative converts angled parking to parallel parking. It does not provide dedicated bike lanes, or a center turn lane for mid-block access points.



FIGURE 37: WOLCOTT ST ALTERNATIVE 1 PROPOSED CROSS SECTION

## Wolcott St Alternative 2 - Two-Way with Bike Lanes

This alternative would provide one northbound travel lane, one southbound travel lane, and a bike lane on each side of the street. There would be a horizontal buffer between the travel lanes and the bike lanes. This alternative retains all existing parallel parking. This alternative converts all angled parking to parallel parking. There are no center turn lane or left turn lanes at the intersections.



FIGURE 38: WOLCOTT ST ALTERNATIVE 2 PROPOSED CROSS SECTION

#### Wolcott St Alternative 3 - Two-Way with Center Turn Lane

This alternative would provide one northbound travel lane, one southbound travel lane, and one center turn lane. The center turn lane allows for cars to turn into mid-block access points more safely. This alternative converts all angled parking to parallel parking. There are no bike lanes in this alternative. The travel lanes in each direction are approximately 16' which may precipitate faster vehicle speeds.

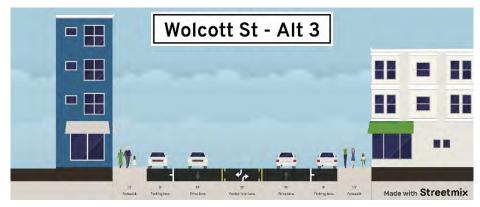


FIGURE 39: WOLCOTT ST ALTERNATIVE 3 PROPOSED CROSS SECTION

## Wolcott St Alternative 4 - Two-Way with Protected Bike Lanes

This alternative would provide one northbound travel lane, one southbound travel lane, and a small 2-foot median in between. This alternative converts all angled parking to parallel parking. The parallel parking will be shifted from along the curb to allow for bike lanes and a horizontal buffer in each direction. This creates a safer experience for the bicyclists as they do not have ride alongside the driver's side doors. The small median in between the travel lanes does not allow for cars to turn into mid-block access points, and no left turn lanes are provided at the intersections.



FIGURE 40: WOLCOTT ST ALTERNATIVE 4 PROPOSED CROSS SECTION

#### Wolcott St Alternative 5 – Two-Way with Two-Way Cycle Track

This alternative would provide one northbound travel lane, one southbound travel lane, and a 4-foot horizontal buffer between the two lanes. A two-way, vertically protected cycle track is provided between the curb and the northbound parallel parking lane, allowing maximum safety for bikers. This alternative converts all angled parking to parallel parking and allows for turns into mid-block access points but does not provide a left turn lane at the intersections.



FIGURE 41: WOLCOTT ST ALTERNATIVE 5 PROPOSED CROSS SECTION

## Wolcott St Alternative 6 - Two-Way with One-Way Bike Lane

This alternative would provide one northbound travel lane, one southbound travel lane, and one center turn lane. The center turn lane allows for cars to turn into mid-block access points more safely. This alternative converts all angled parking to parallel parking and provides a one-way (northbound) bike lane with a horizontal buffer between the parking lane and the travel lane.



FIGURE 42: WOLCOTT ST ALTERNATIVE 6 PROPOSED CROSS SECTION

#### Wolcott St Alternative 7 - Two-Way with Bike Lane & Angled Parking

This alternative would provide one northbound travel lane and one southbound travel lane. All existing parking, angled and parallel, will remain in this alternative. A single bike lane is provided along the curb with a horizontal buffer between the bike lane and parking lane. All parallel parking will be shifted over to make room for the bike lane. This alternative does not provide a center turn lane and left turn lanes at the intersections.



FIGURE 43: WOLCOTT ST ALTERNATIVE 7 PROPOSED CROSS SECTION

## Wolcott St Alternative 8 - Two-Way with Angled Parking

This alternative would provide one northbound travel lane and one southbound travel lane. All angled and parallel parking will remain. No bike lanes, center turn lane, or left turn lanes at intersections are provided in this alternative. The travel lanes remain wider than usual, 16 feet each, which may precipitate faster vehicle speeds



FIGURE 44: WOLCOTT ST ALTERNATIVE 8 PROPOSED CROSS SECTION

# MEASURES OF EFFECTIVENESS AND SCREENING

The two-way alternatives were evaluated based on specific measures of effectiveness (MOE) selected in consultation with the MPO and City. The screening evaluated each two-way alternative for their benefits and impacts across the following categories:

- Construction Costs
- Business Access
- Transit Impact
- Traffic Safety

- Parking Impact
- Traffic Operations
- Bicycle Comfort
- Pedestrian Access

#### **Construction costs**

The lowest-cost alternatives would involve signing, pavement marking, and traffic signal modifications only. These lower cost alternatives included 2, 3, and 6 on Durbin St and 2, 3, 6, 7, and 8 on Wolcott St. Alternatives 1 and 4 would require a raised median or vertical barriers and would therefore be more expensive.

#### **Business Access**

Center turn lanes allow for safe and full access to all driveways and side streets. The best alternatives with respect to business access are 3 and 6 on Durbin St and Wolcott St since they both provide a center turn lane. Alternatives 1 and 4 would be the most restrictive because the median would prohibit direct access to businesses located mid-block.

#### **Transit Impact**

Transit impact relates to changing the routing of buses that would result in either a longer or shorter run time. The study area has one transit stop, located on Wolcott St, and a downtown transfer center one block east at the library. None of the alternatives would result in a change of bus routing.

## **Traffic Safety**

While introducing two-way traffic creates additional conflict points at intersections and driveways, narrower lanes are expected to result in slower traffic speeds. Center turn lanes provide a safer flow of traffic by separating left turns from through vehicles at intersections and midblock. The safest alternatives with respect to traffic would be 1, 3, and 6 for both Durbin St and Wolcott St.

#### **Parking Impact**

Converting angled parking on Wolcott St to parallel parking will displace several spots on each block (See Table 7). Durbin St will have no parking impacts as all the alternatives propose to keep the existing parallel parking. Alternatives 7 and 8 for Wolcott St are the only alternatives that don't displace any parking spaces.

#### **Traffic Operations**

The current level of service at each intersection for Durbin St and Wolcott St are either A or B. No proposed alternatives degrade the level of service to a failing level of service (e.g. LOS E or F). The introduction of opposing traffic along both Durbin and Wolcott Streets will result in slight increases in delays for north-south traffic.

#### **Bicycle Comfort**

A vertical buffer is the safest option for a bicyclist riding down the street, which would include vertical barriers or a shifted parking lane. The safest alternatives for bicyclists would be 4 and 5 on Durbin St and 4, 5, and 7 on Wolcott St which provided protected bicycle lanes. The least safe options are alternatives 1, 3, and 8 which don't have any bike lanes, riders would have to share the travel lane with vehicles.

#### **Pedestrian Access**

Minimizing pedestrian exposure to traffic by reducing the number of travel lanes enhances safety, through lane reductions and/ or construction of a median. The safest alternatives for Durbin St are 1, 2, 4, and 5, and for Wolcott St 1, 2, 4, 5, 7, and 8. Center turn lanes add another lane that pedestrians must cross, therefore, alternatives 3 and 6 do not significantly reduce the pedestrian exposure.

Tables 3 and 4, below, summarize the screening of all two-way alternatives:

	Two-Way Alternatives Screening Criteria									
Street	Alt	Two-Way Street Options	Construction Cost	Business Access	Transit Impact	Traffic Safety	Parking Impact	Traffic Operations	Bicycle Comfort	Pedestrian Access
	1	One lane in each direction with median	*	*	*	$\Rightarrow$	*	*	*	$\bigstar$
	2	One lane each direction with a marked bike lane in each direction	*	*	*	*	*	*	*	*
in St	3	One lane each direction with center turn lane	*	*	*	*	$\Rightarrow$	*	*	$\bigstar$
Durbin St	4	One lane each direction with a parking protected one-way bike lane in each direction	*	*	*	*	*	*	$\bigstar$	*
	5	One lane in each direction with a two way protected bike lane buffered by parking	*	$\Rightarrow$	*	*	$\Rightarrow$	*	*	*
	6	One lane each direction with center turn lane and one-way bike lane	*	$\Rightarrow$	*	*	$\Rightarrow$	*	*	*
		*	High Cost	Restricts Access	Change in Routing / Increased Run Time	Potential Increase in Crash Risk / Conflicts		Degrades Level of Service to Failing	No Buffer	Longer Crossings /Exposure
	LEGEND		Moderate Cost	No Change	No Change	No Change	Minimal Loss of Curbside Parking	No/Little Change	Horizontal Buffer	No Change
		*	Low Cost	Improves Access	Change in Routing / Decreased Run Time	Reduction in Crash Risk / Conflicts	No Change	Improves Level of Service	Vertical Buffer	Shorter Crossings /Exposure

TABLE 4: WOLCOTT ST TWO-WAY ALTERNATIVES SCREENING

	Two-Way Alternatives Screening Criteria									
Street	Alt	Two-Way Street Options	Construction Cost	Business Access	Transit Impact	Traffic Safety	Parking Impact	Traffic Operations	Bicycle Comfort	Pedestrian Access
	1	One lane in each direction with median	*	*	*	$\Rightarrow$	*	*	*	$\bigstar$
	2	One lane each direction with a marked bike lane in each direction	*	*	*	$\Rightarrow$	*	*	*	$\Rightarrow$
	3	One lane each direction with center turn lane	*	$\Rightarrow$	*	$\Rightarrow$	$\Rightarrow$	$\bigstar$	*	$\bigstar$
tt St	4	One lane each direction with a parking protected one-way bike lane in each direction	*	*	*	*	*	*	$\bigstar$	*
Wolcott St	5	One lane in each direction with a two way protected bike lane buffered by parking	*	$\bigstar$	$\bigstar$	*	*	$\bigstar$	$\Rightarrow$	*
	6	One lane each direction with center turn lane and one-way bike lane	$\Rightarrow$	$\Rightarrow$	$\bigstar$	$\Rightarrow$	*	*	$\bigstar$	$\Rightarrow$
	7	One lane each direction with one way bike lane protected by parallel parking, perpendicular parking remains	*	*	*	*	*	*	*	*
	8	One lane each direction with parallel and perpendicular parking remaining		*	$\bigstar$	*	*	*	*	$\Rightarrow$
		*	High Cost	Restricts Access	Change in Routing / Increased Run Time	Potential Increase in Crash Risk / Conflicts	of Curbside	Degrades Level of Service to Failing	No Buffer	Longer Crossings /Exposure
			Moderate Cost	No Change	No Change	No Change	Minimal Loss of Curbside Parking		Horizontal Buffer	No Change
		*	Low Cost	Improves Access	Change in Routing / Decreased Run Time	Reduction in Crash Risk / Conflicts	NIOINANGA	Improves Level of Service	Vertical Buffer	Shorter Crossings /Exposure

Based on the results of the screening analysis, and stakeholder input, Alternatives 3 (center turn lane) and 6 (center turn lane and one-way bike lane) were advanced on Durbin Street, and Alternatives 3 (center turn lane) and 7 (two-way with one-way protected bike lane) were advanced on Wolcott Street.

# TWO-WAY ANALYSIS

## PROPOSED GEOMETRY AND STREET CROSS SECTIONS

The proposed two-way cross-sections and concepts for Durbin and Wolcott Streets are shown below. Each alternative and each street were developed to a typical block-level concept plan layout and evaluated for traffic operations and construction costs. Durbin Street Alternative 3 provides two 14-foot travel lanes and a 12' center two-way turn lane. Durbin Street Alternative 6 provides two 11-foot travel lanes, an 11-foot center two-way turn lane, and a 5' one-way bike lane with a 2' horizonal buffer. Wolcott Street Alternative 3 provides two 14-foot travel lanes and a 12' center two-way turn lane. Wolcott Street Alternative 7 provides two 12-foot travel lanes, and a 6' one-way bike lane with a 2' horizonal buffer. **Figure 45** illustrates the final proposed alternative two-way cross-sections, and **Figure 46** illustrates a conceptual lane configuration and pavement marking plan. A detailed concept plan is included in **Appendix E**.

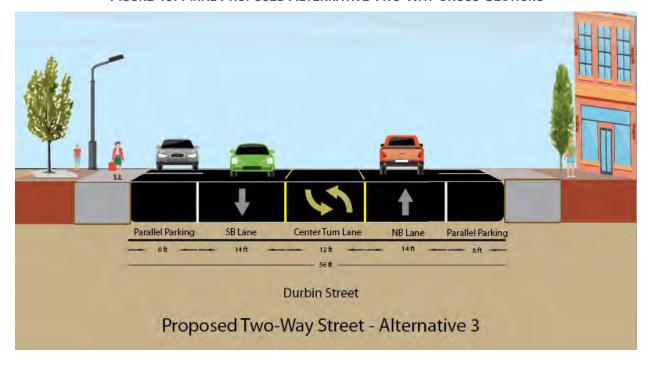
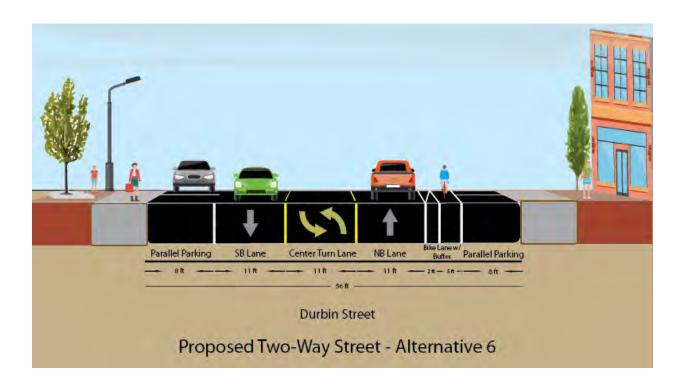


FIGURE 45: FINAL PROPOSED ALTERNATIVE TWO-WAY CROSS-SECTIONS



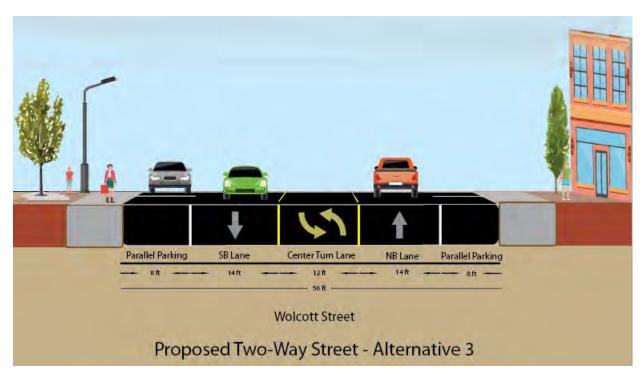




FIGURE 46: CONCEPTUAL TWO-WAY LANE CONFIGURATIONAL AND PAVEMENT MARKING



# PROPOSED SIGNAL TIMING

Existing signal cycle lengths of individual intersections, and progression (e.g. offsets) to coordinate adjacent signals were retained to maintain coordination of the grid network, specifically the progression for east-west traffic. Splits within each signal were optimized. The proposed new direction of traffic was assumed to operate concurrently with the existing one-way phase along Durbin and Wolcott Streets.

# RE-BALANCED MULTI-MODAL TRAFFIC VOLUMES

The existing traffic count volumes, compiled from new counts collected in June 2021, were used to develop the expected traffic volumes under a two-way traffic conversion. Assuming after a two-way conversion distribution of traffic volumes would ultimately reach equilibrium between the two streets, all existing traffic volumes, including left and right turns to and from Durbin Street and Wolcott Street at cross streets, were assigned evenly between each street. Half of the existing northbound traffic on Durbin Street was assumed to use Wolcott Street under two-way operations, and half of the existing southbound traffic on Wolcott Street was assumed to use Durbin Street. **Figures 47 and 48** contains a two-way traffic volume diagram.

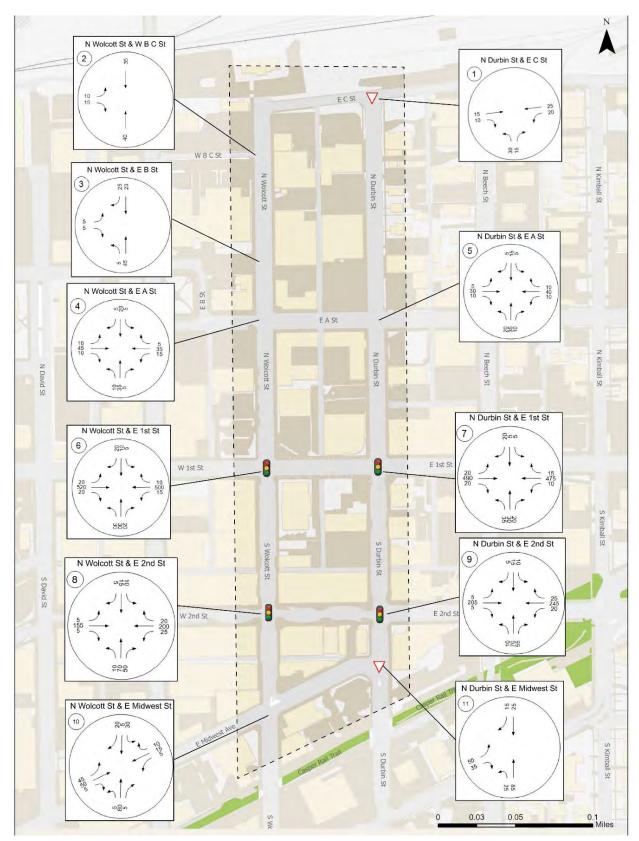


FIGURE 47: AM PEAK HOUR TWO-WAY VOLUMES

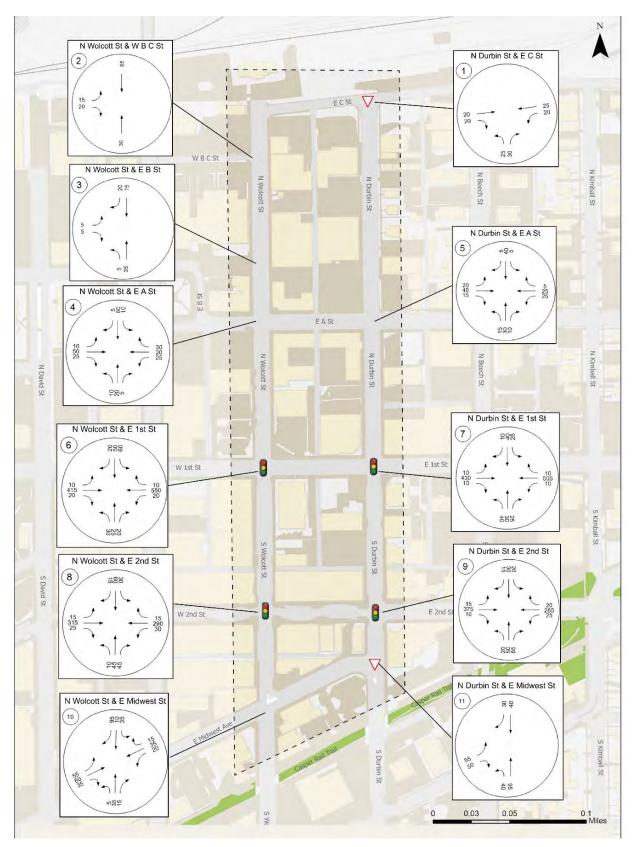


FIGURE 445: PM PEAK HOUR TWO-WAY VOLUMES

# TWO-WAY TRAFFIC OPERATIONS ANALYSIS

Intersection capacity analyses were performed using the 2000 Highway Capacity Manual (HCM) methodology for the signalized study area intersections under two different peak periods, morning and evening weekday rush hours. The performance measure of effectiveness used was the Level of Service (LOS).

TABLE 5: SUMMARY OF DURBIN ST CAPACITY ANALYSIS (PROPOSED TWO-WAY TRAFFIC)

ш	# Interpostion		Ammusesh	Future Alts 3/6 – AM(PM)				
#	Intersection	Control	Approach	LOS	Delay	V/C		
			EB	N/A	0.0 (0.0)	0.02 (0.03)		
1	N. Durbin St @ E. C St	TWSC	WB	A (A)	3.3 (3.3)	0.02 (0.02)		
			NB	A (A)	9.0 (8.9)	0.04 (0.03)		
			EB	A (A)	8.7 (8.9)	0.03 (0.04)		
2	N. Wolcott St @ W. B C St	TWSC	NB	N/A (N/A)	0.0 (0.0)	0.02 (0.02)		
			SB	N/A (N/A)	0.0 (0.0)	0.02 (0.04)		
			EB	A (A)	8.7 (9.0)	0.01 (0.01)		
3	3 N. Wolcott St @ E. B St	None	NB	A (A)	0.7 (0.9)	0.00 (0.00)		
			SB	N/A (N/A)	0.0 (0.0)	0.03 (0.07)		
			Overall	A (A)	7.5 (7.7)	0.24 (0.26)		
			EB	A (A)	8.4 (8.6)	0.11 (0.14)		
4	N. Wolcott St @ E. A St	AWSC	WB	A (A)	7.0 (7.1)	0.03 (0.05)		
			NB	A (A)	7.1 (7.1)	0.02 (0.02)		
			SB	A (A)	7.0 (7.4)	0.01 (0.02)		
			EB	A (A)	6.8 (6.9)	0.04 (0.06)		
5	N. Durbin St @ E. A St	TWSC	WB	A (A)	6.9 (7.1)	0.05 (0.06)		
5	N. Duibiii St @ E. A St	10030	NB	N/A (N/A)	7.1 (6.9)	0.04 (0.02)		
			SB	N/A (N/A)	6.8 (7.0)	0.01 (0.01)		
			Overall	A (A)	7.5 (9.3)	0.25 (0.25)		
			EB	A (A)	3.9 (3.3)	0.26 (0.19)		
6	N. Wolcott St @ E. 1st St	Signal	WB	A (A)	3.0 (2.8)	0.24 (0.24)		
			NB	D (D)	49.0 (40.0)	0.18 (0.14)		
			SB	D (D)	39.1 (41.6)	0.08 (0.33)		

#	Interportion	Control	Annyonah	Fut	ure Alts 3/6 –	AM(PM)
#	Intersection	Control	Approach	LOS	Delay	V/C
			Overall	A (A)	6.0 (7.2)	0.23 (0.24)
			EB	A (A)	0.6 (1.4)	0.21 (0.19)
7	N. Durbin St @ E. 1st St	Signal	WB	A (A)	3.0 (3.1)	0.21 (0.22)
			NB	D (C)	45.3 (31.6)	0.23 (0.21)
			SB	D (D)	39.8 (40.8)	0.05 (0.24)
			Overall	A (B)	7.7 (11.4)	0.29 (0.30)
			EB	A (A)	5.0 (4.5)	0.18 (0.30)
8	N. Wolcott St @ E. 2nd St	Signal	WB	A (A)	2.5 (2.5)	0.28 (0.29)
			NB	B (D)	18.6 (39.4)	0.31 (0.24)
			SB	B (D)	17.7 (36.7)	0.06 (0.29)
			Overall	A (B)	8.4 (13.8)	0.29 (0.36)
			EB	A (A)	4.1 (4.4)	0.23 (0.36)
9	N. Durbin St @ E. 2 <sup>nd</sup> St	Signal	WB	A (A)	5.9 (4.6)	0.29 (0.29)
			NB	B (D)	18.6 (40.8)	0.30 (0.41)
			SB	B (D)	15.8 (53.6)	0.06 (0.16)
			Overall	A (A)	5.9 (6.5)	0.27 (0.27)
	N. Wolcott St @ E. Midwest		EB	B (B)	10.6 (11.0)	0.15 (0.22)
10	Ave	TWSC	WB	A (B)	9.7 (10.9)	0.05 (0.13)
	Ave		NB	N/A (N/A)	0.0 (0.0)	0.06 (0.04)
			SB	N/A (N/A)	0.0 (0.0)	0.02 (0.08)
	N. Durbin St @ E. Midwest		EB	A (A)	9.3 (9.8)	0.07 (0.09)
11	Ave	TWSC	NB	N/A (N/A)	1.7 (2.4)	0.02 (0.03)
	7/6		SB	N/A (N/A)	0.0 (0.0)	0.03 (0.05)
	TWSC= two w	ay stop cor	ntrol, AWSC =	All Way Stop	p Control	

TABLE 6: SUMMARY OF WOLCOTT ST CAPACITY ANALYSIS (PROPOSED TWO-WAY TRAFFIC)

#	Intersection	Control	Annroach	Fu	ture Alts 7 – /	AM(PM)
#	Intersection	Control	Approach	LOS	Delay	V/C
			EB	A (A)	8.7 (9.0)	0.03 (0.04)
2	N. Wolcott St @ W. B C St	Stop	NB	N/A (N/A)	0.0 (0.0)	0.02 (0.02)
			SB	N/A (N/A)	0.0 (0.0)	0.02 (0.04)
			EB	A (A)	8.8 (9.1)	0.01 (0.01)
3	N. Wolcott St @ E. B St	None	NB	N/A (N/A)	0.7 (0.9)	0.00 (0.00)
			SB	N/A (N/A)	0.0 (0.0)	0.03 (0.07)
			Overall	A (A)	7.5 (7.7)	0.213 (0.241)
			EB	A (A)	7.8 (7.9)	0.10 (0.13)
4	N. Wolcott St @ E. A St	AWSC	WB	A (A)	7.0 (7.1)	0.03 (0.05)
			NB	A (A)	7.7 (7.7)	0.08 (0.05)
			SB	A (A)	7.5 (8.0)	0.05 (0.12)
			Overall	A (A)	7.4 (10.0)	0.28 (0.28)
			EB	A (A)	3.9 (3.8)	0.26 (0.19)
6	N. Wolcott St @ E. 1st St	Signal	WB	A (A)	3.2 (3.2)	0.24 (0.25)
			NB	D (D)	46.4 (42.2)	0.39 (0.36)
			SB	D (D)	38.8 (43.1)	0.09 (0.48)

#	Intersection	Control	Approach	Fu	ture Alts 7 – /	AM(PM)
#	intersection	Control	Approach	LOS	Delay	V/C
			Overall	A (B)	7.8 (11.6)	0.29 (0.33)
			EB	A (A)	5.1 (5.0)	0.18 (0.30)
8	N. Wolcott St @ E. 2 <sup>nd</sup> St	Signal	WB	A (A)	2.5 (2.9)	0.28 (0.30)
			NB	B (D)	18.8 (39.2)	0.33 (0.31)
			SB	B (D)	18.2 (35.6)	0.10 (0.48)
			Overall	A (A)	6.2 (7.1)	0.284 (0.327)
	N. Wolcott St @ E. Midwest		EB	B (B)	11.2 (12.1)	0.17 (0.26)
10	Ave	TWSC	WB	B (B)	10.1 (11.9)	0.05 (0.15)
	Ave		NB	N/A (N/A)	0.4 (0.7)	0.00 (0.00)
			SB	N/A (N/A)	4.2 (2.0)	0.02 (0.03)
	TWSC= two w	ay stop cor	ntrol, AWSC =	- All Way Sto	o Control	

The results of the capacity analysis show that under either of the two-way retained alternatives, no individual movement or overall intersection is expected to operate at an unacceptable level of service (e.g. LOS E or F). However, some individual north-south movements do drop from a LOS C to D due to retention of current signal timing patterns such as cycle lengths and progression that favor east-west streets. It is suggested to reoptimize the larger downtown Casper network signal timing if the two-way conversion is implemented to better balance vehicle delays on Durbin and Wolcott. It is also important to note that LOS is just one criteria to evaluate transportation network performance and that numerous factors should be considered in evaluating the mobility, safety, and economic benefits for all roadway users and the Downtown Casper community.

#### PARKING IMPACTS

Currently on Wolcott Street there are 88 total curbside parking spaces. Converting angled parking would result in the displacement of between 25-30 spaces per alternative as shown in **Table 7**. Some of the displaced on-street parking spaces could be replaced on side streets such as A Street or 2<sup>nd</sup> Street through road diets and converting parallel parking to angled parking, and this can be evaluated during the design phase if the conversion proceeds.

TABLE 7: SUMMARY OF WOLCOTT ST CURBSIDE PARKING IMPACTS

	Total Parking Spaces	Current Angled Parking	Displaced Parking
Alternative 1	88 spaces	52 spaces	25-30 spaces
Alternative 2	88 spaces	52 spaces	25-30 spaces
Alternative 3	88 spaces	52 spaces	25-30 spaces
Alternative 4	88 spaces	52 spaces	25-30 spaces
Alternative 5	88 spaces	52 spaces	25-30 spaces
Alternative 6	88 spaces	52 spaces	25-30 spaces
Alternative 7	88 spaces	52 spaces	0 spaces
Alternative 8	88 spaces	52 spaces	0 spaces

#### PEDESTRIAN SAFETY

As shown in **Figure**, at a typical four-leg intersection with two-way traffic flow on all streets, there are over 32 vehicle-vehicle conflict points, where multiple vehicles could desire to cross the same point simultaneously. Additionally, there are 16 vehicle-pedestrian conflict points. The conversion from one-way to two-way would increase the number of existing vehicle-pedestrian conflict points, as well as increase the complexity of signal phasing to serve increased demands for left-turns. Improvements to pedestrian crossings such as bump outs and signal phasing/timing such as Leading Pedestrian Intervals are some options to address the additional conflicts.

Traffic safety data from previous one-way to two-way conversions indicates that crash reductions have occurred after implementation. Downtown Louisville, Kentucky did a comparable conversion to two of their one-way streets which each had an ADT of under 10,000, like Durbin St and Wolcott St. They were successfully converted into two-way streets and after a few years the vehicle collisions on Brook Street and First St were reduced by 36% and 60% respectively.

Compared to a one-way street, two-way streets by nature reduce the drivers' travel speed due to design features (e.g., narrower lanes) and human factors (e.g., awareness of increased conflicts). Slower speeds in turn increase driver reaction time which can help avoid collisions. The slower speeds will also allow the pedestrian to feel more comfortable crossing the street even though they have to watch out for traffic from both directions. Two-way streets also avoid the issue of drivers turning the wrong way on a one-way street, reducing head-on crashes.

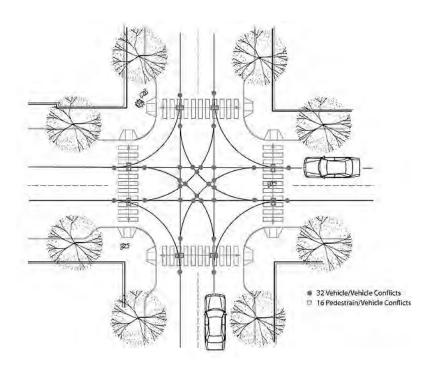


FIGURE 49: INTERSECTION CONFLICT POINT DIAGRAM (SOURCE INSTITUTE OF TRANSPORTATION ENGINEERING

## **CONSTRUCTION COSTS**

Construction cost estimates were developed using a major quantities cost estimating methodology. Major quantities estimates are used to estimate construction costs during the planning stage and early in the preliminary engineering stage. The idea is to estimate as accurately as possible those categories that can be estimated in the very early stages and calculate the remaining categories as lump sum items or percentages of those categories. The planning level cost estimate primarily focused on traffic engineering items such as signing, pavement markings and signals. The cost estimate was developed at a cost per block, approximately 500' in length.

The quantities used in each cost estimate were based on the conceptual engineering plans and are summarized in **Table 8.** The total cost and unit prices are calculated in present value dollars. Adjustments should be made for inflating costs to future years if improvements are delayed. Contingency percentages are consistent with WYDOT planning-level cost estimate practices. Detailed cost estimate worksheets can be found in **Appendix F.** 

TABLE 8. SUMMARY OF TWO-WAY CONVERSION COST ESTIMATES PER BLOCK

Per Block Planning Level Costs for Two-Way Conversion	
Remove Existing Materials	\$5,000
Signing and Markings	\$15,000
Minor Streetscape (ADA ramps)	\$20,000
Signal Modification	\$75,000
Full Signal Rebuild	\$400,000
Total Cost Per Block without Signal*	\$50,000
Total Cost Per Block with Signal Modification*	\$150,000
Total Cost Per Block with Signal Reconstruction*	\$450,000

<sup>\*</sup>includes up to 40% contingency

To convert Durbin and Wolcott Streets to two-way flow within the study area would cost an estimated \$150,000 per block with a traffic signal modification and \$50,000 per block without a traffic signal. This planning-level cost estimate includes new street signs, modification of traffic signals (e.g. poles, mast arms, and signal indications), pavement markings, and minor streetscape (e.g. ADA ramp improvements or channelization removal). No right-of-way acquisition or utility relocation costs are anticipated with this project. The costs assume no new streetscape elements (e.g. lighting) or resurfacing of the roadway and that existing pavement markings will be eradicated prior to installing new pavement markings for two-way traffic patterns. If all 7 blocks were converted, the potential cost could total up to \$750,000 (e.g. 4 blocks with signal modifications and 3 blocks without signals).

### FINDINGS AND RECOMMENDATIONS

This report evaluated existing conditions for downtown Casper including traffic volumes, traffic operations, traffic safety, multimodal accessibility and parking. Previous transportation studies, long-range plans and best practices were evaluated in the context of converting Durbin and Wolcott Streets back to two-way flow.

Based on the stakeholder and public input and technical analysis, it is recommended to convert Durbin Street, Wolcott Street and the connecting blocks of C Street and Midwest Avenue to two-way flow. The redesign should include bike lanes and leading pedestrian intervals to enhance multimodal accessibility and safety. The findings show that converting the one-way streets to two-way streets would not have an adverse impact on traffic operations and would have adequate roadway capacity for any new development/ traffic growth downtown. A downtown two-way street pattern would be perceived favorably by most stakeholders and would provide a more complete street network including dedicated bike lanes and better access to business. New bike lanes on Durbin Street and Wolcott Street would connect to the rail trail and other existing bicycle facilities to the south of the study area along Durbin Street.

It is recommended to develop detailed engineering design plans for installing two-way traffic patterns including signing, pavement marking and modification of existing traffic signals. Additional community outreach should be conducted during the detailed engineering design. As two-way conversions will add additional conflict points at intersections, crash statistics should be monitored, and pro-active / appropriate mitigation measured implemented such as bumpouts and Leading Pedestrian Intervals if rates and/or crash severity appreciably increase.

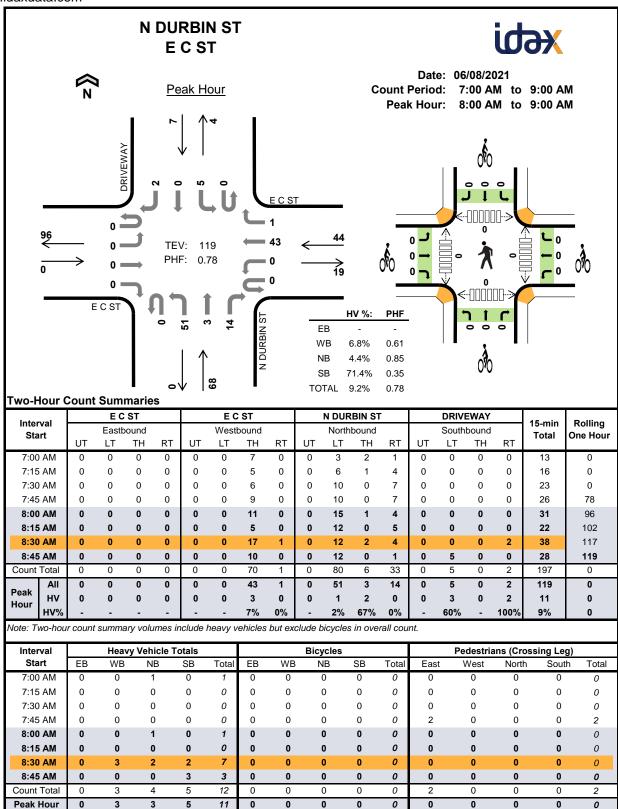
To address construction costs/funding, it is recommended that the City/Casper Area MPO pursue multimodal grants for design and construction funding such as Transportation Alternatives, Highway Safety Improvement Program or Community Block Development or other related programs

Phasing of the two-way conversion may also reduce capital programming impacts and could include 1) segmentation such as constructing the northern blocks of 1<sup>st</sup> to C Street first, or converting one street at a time (e.g., Durbin Street then Wolcott).

## **Traffic Count Reports**

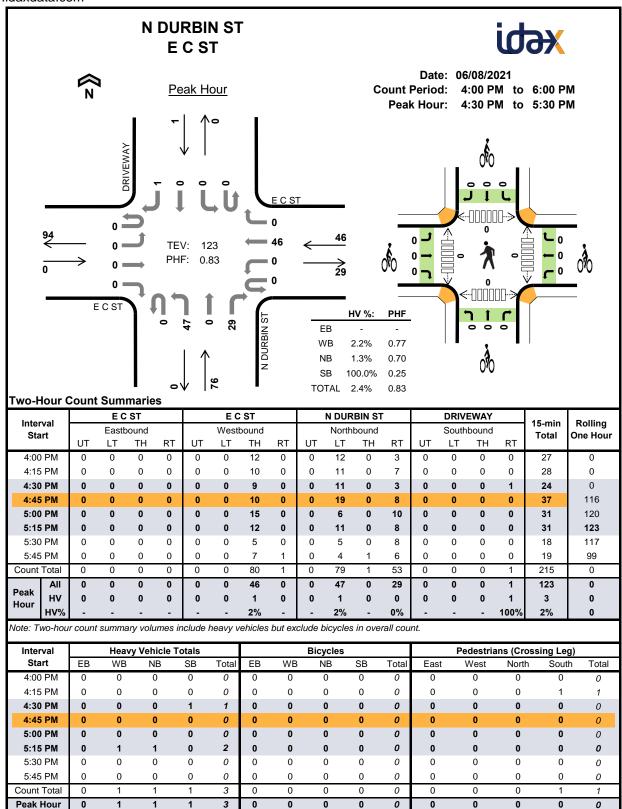
- 1. Turning Movement Counts
- 2. Vehicle Class, Speed, and ADT Counts

# **Turning Movement Counts**



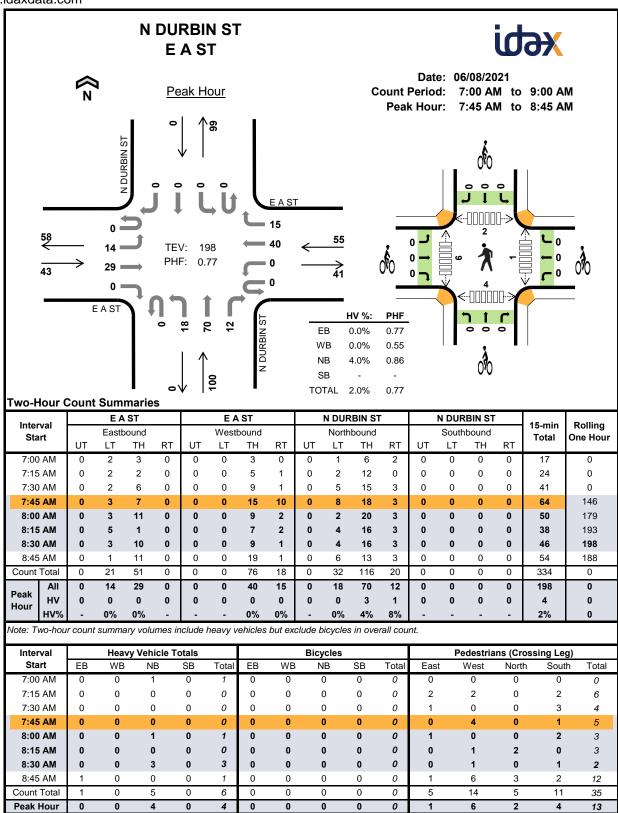
Intomial		ΕC	ST			ΕC	ST			N DUR	BIN ST			DRIV	EWAY		45	Dalling
Interval Start		Eastb	ound			Westl	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	One moun
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	3	0	0	1	1	0	0	0	0	2	7	8
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	11
Count Total	0	0	0	0	0	0	3	0	0	1	3	0	0	3	0	2	12	0
Peak Hour	0	0	0	0	0	0	3	0	0	1	2	0	0	3	0	2	11	0

Interval		E C ST			E C ST		N	DURBIN	ST	D	RIVEWA	Υ	45	Delling
Interval Start		Eastboun	d	V	Vestbour	nd	N	lorthbou	nd	S	outhbour	nd	15-min Total	Rolling One Hour
Otart	LT	TH	RT	i otai	Ono mour									
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



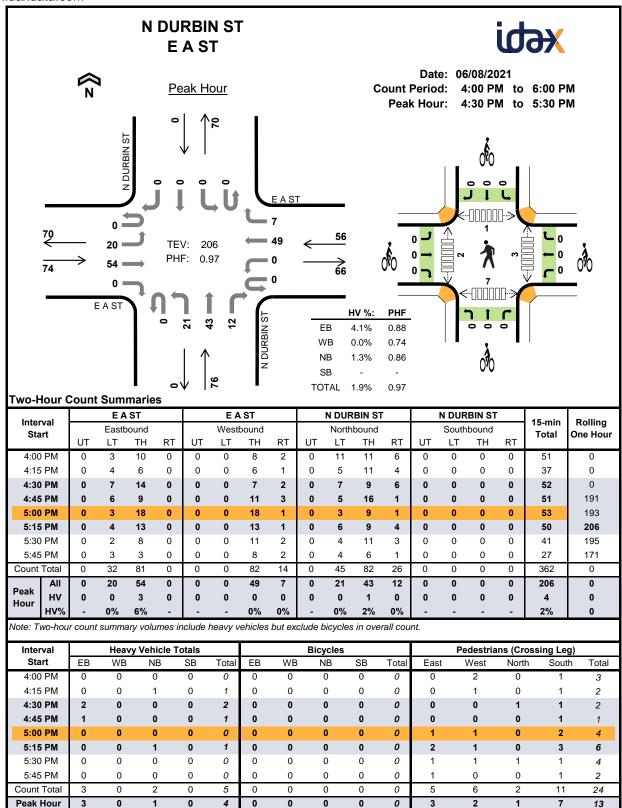
Interval		ΕC	ST			ΕC	ST			N DUR	BIN ST	•		DRIV	EWAY		45 min	Dalling
Start		Eastb	ound			West	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	One nour
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	3	0
Peak Hour	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	3	0

Intonial		E C ST			E C ST		N	DURBIN	ST	D	RIVEWA	Υ	45 min	Dalling
Interval Start	E	Eastboun	d	٧	Vestbour	nd	N	lorthbour	nd	S	outhbour	nd	15-min Total	Rolling One Hour
Otart	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	. ota.	Ono rioui
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



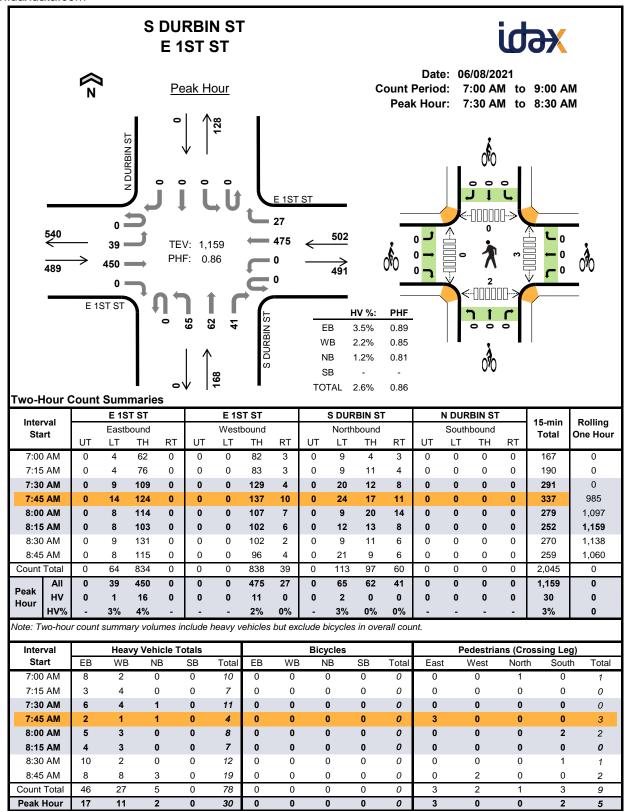
Interval		ΕA	ST			ΕA	ST			N DUR	BIN ST	•		N DUR	BIN ST	•	45 min	Dalling
Start		Eastb	ound			West	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	υT	LT	TH	RT	Total	One mour
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3	4
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
Count Total	0	0	1	0	0	0	0	0	0	0	4	1	0	0	0	0	6	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	4	0

lmtom rol		E A ST			E A ST		N	DURBIN	ST	N	DURBIN	ST	45 min	Dalling
Interval Start	E	Eastboun	d	V	Vestbour	nd	N	lorthbour	nd	S	outhbour	nd	15-min Total	Rolling One Hour
Otart	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	. ota.	Ono mour
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



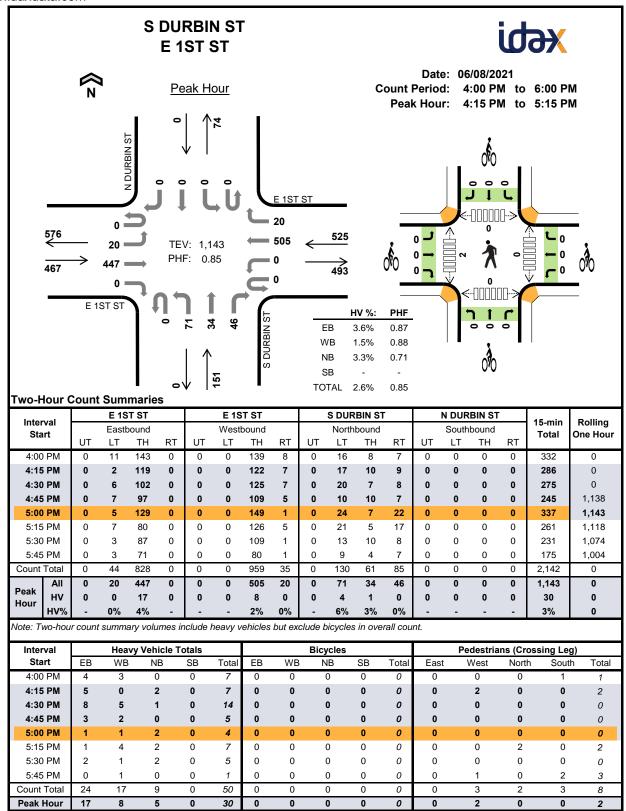
Interval		ΕA	ST			ΕA	ST			N DUR	BIN ST	•		N DUR	BIN ST	•	45 min	Dalling
Start		Eastb	ound			West	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	Ono mou
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
4:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0 0 0 0			0	1	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	3	0	0	0	0	0	0	1	1	0	0	0	0	0	5	0
Peak Hour	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	4	0

luto m rol		E A ST			E A ST		N	DURBIN	ST	NI	DURBIN	ST	45 min	Dalling
Interval Start	E	Eastboun	d	V	Vestbour	nd	N	lorthbour	nd	S	outhbour	nd	15-min Total	Rolling One Hour
Otart	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	. ota.	Ono mour
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



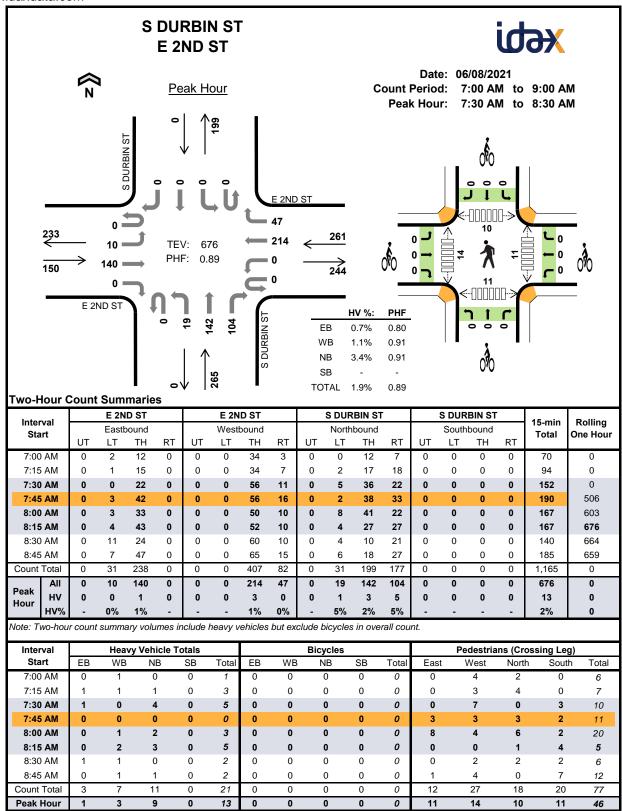
Interval		E 1S	T ST			E 18	T ST			S DUR	BIN ST	•		N DUR	BIN ST		15-min	Rolling
Start		Eastb	ound			West	bound			North	bound			South	bound		Total	One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	One from
7:00 AM	0	1	7	0	0	0	2	0	0	0	0	0	0	0	0	0	10	0
7:15 AM	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	7	0
7:30 AM	0	0	6	0	0	0	4	0	0	1	0	0	0	0	0	0	11	0
7:45 AM	0	0	2	0	0	0	1	0	0	1	0	0	0	0	0	0	4	32
8:00 AM	0	1	4	0	0	0	3	0	0	0	0	0	0	0	0	0	8	30
8:15 AM	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	7	30
8:30 AM	0	3	7	0	0	0	2	0	0	0	0	0	0	0	0	0	12	31
8:45 AM	0	0	8	0	0	0	8	0	0	1	0	2	0	0	0	0	19	46
Count Total	0	5	41	0	0	0	27	0	0	3	0	2	0	0	0	0	78	0
Peak Hour	0	1	16	0	0	0	11	0	0	2	0	0	0	0	0	0	30	0

lete mod		E 1ST ST	Γ		E 1ST ST	Г	S	DURBIN	ST	NI	DURBIN	ST	15-min	Dalling
Interval Start	E	Eastboun	d	٧	Vestbour	nd	N	lorthbour	nd	S	outhbour	nd	Total	Rolling One Hour
J.a	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		0.101.104.1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



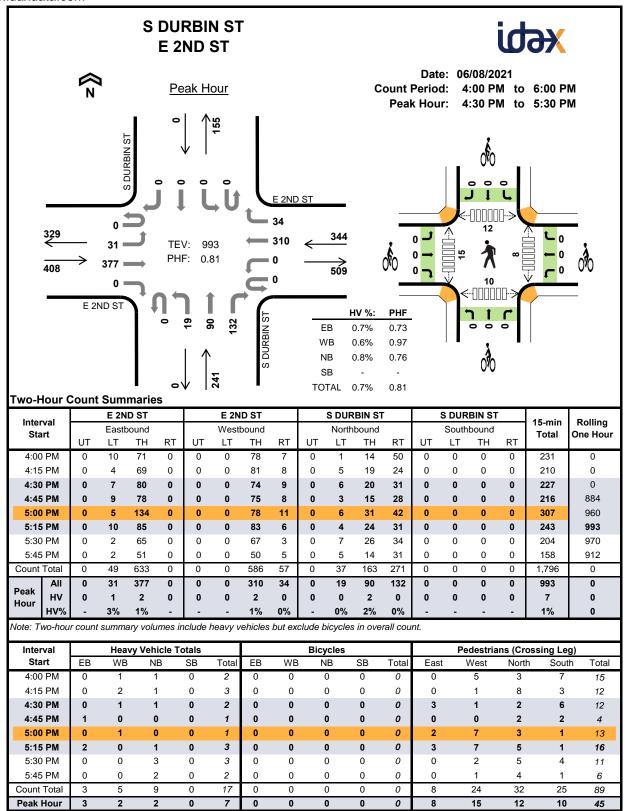
I4I		E 1S	T ST			E 18	T ST			S DUR	BIN ST	•		N DUR	BIN ST	•	45	D-111
Interval Start		Eastb	ound			West	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	One moun
4:00 PM	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	7	0
4:15 PM	0	0	5	0	0	0	0	0	0	1	1	0	0	0	0	0	7	0
4:30 PM	0	0	8	0	0	0	5	0	0	1	0	0	0	0	0	0	14	0
4:45 PM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	33
5:00 PM	0	0	1	0	0	0	1	0	0	2	0	0	0	0	0	0	4	30
5:15 PM	0	0	1	0	0	0	4	0	0	1	1	0	0	0	0	0	7	30
5:30 PM	0	0	2	0	0	0	1	0	0	2	0	0	0	0	0	0	5	21
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	17
Count Total	0	0	24	0	0	0	17	0	0	7	2	0	0	0	0	0	50	0
Peak Hour	0	0	17	0	0	0	8	0	0	4	1	0	0	0	0	0	30	0

Interval		E 1ST ST	Γ		E 1ST ST	Г	SI	DURBIN	ST	NI	DURBIN	ST	45	Rolling
Start	Е	astboun	d	V	Vestbour	nd	N	lorthbour	nd	S	outhbour	nd	15-min Total	One Hour
Otare	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Total	Ono mou
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



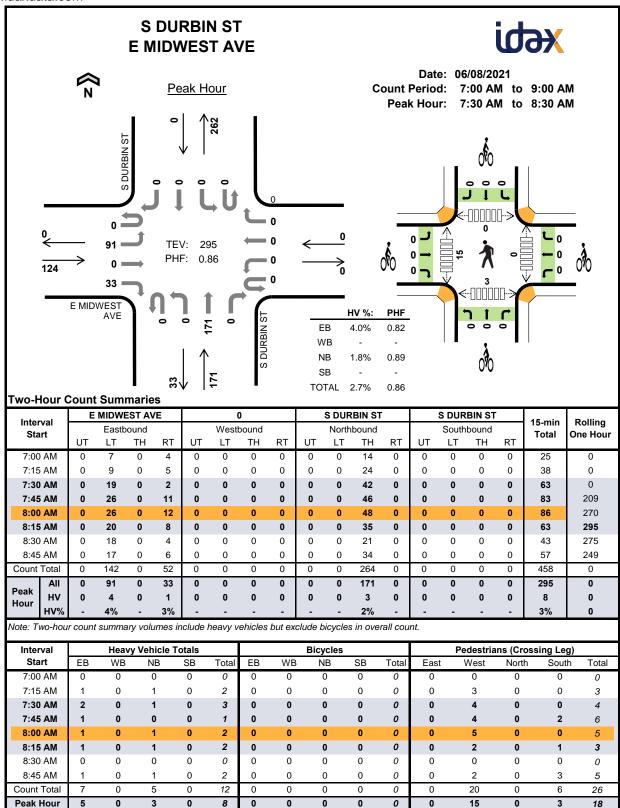
Interval		E 2N	D ST			E 2N	D ST			S DUR	BIN ST	•		S DUR	BIN ST	•	45 min	Rolling
Start		Eastb	ound			West	bound			North	bound			South	bound		15-min Total	One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	One nour
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	3	0
7:30 AM	0	0	1	0	0	0	0	0	0	1	1	2	0	0	0	0	5	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
8:00 AM	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	3	11
8:15 AM	0	0	0	0	0	0	2	0	0	0	1	2	0	0	0	0	5	13
8:30 AM	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	10
8:45 AM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	12
Count Total	0	0	3	0	0	0	6	1	0	1	5	5	0	0	0	0	21	0
Peak Hour	0	0	1	0	0	0	3	0	0	1	3	5	0	0	0	0	13	0

lmtom rol		E 2ND S	Т		E 2ND S	Т	S	DURBIN	ST	SI	DURBIN	ST	45 min	Dalling
Interval Start	E	Eastboun	d	V	Vestbour	nd	N	lorthbour	nd	S	outhbour	nd	15-min Total	Rolling One Hour
Otart	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	. ota	Ono rioui
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



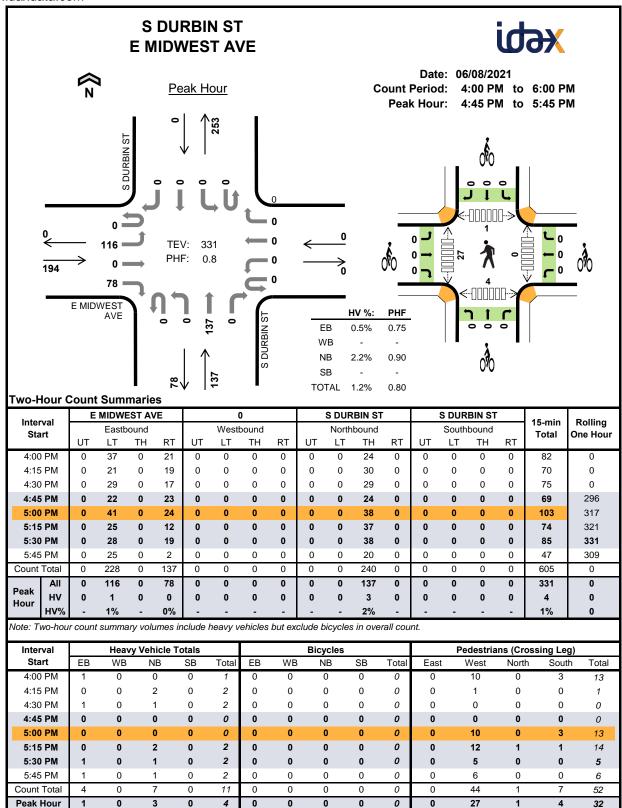
l		E 2N	D ST			E 2N	D ST			S DUR	BIN ST	-		S DUR	BIN ST		45	D-111
Interval Start		Eastb	ound			Westl	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	One nour
4:00 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2	0
4:15 PM	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	3	0
4:30 PM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0
4:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	7
5:15 PM	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	3	7
5:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	8
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	9
Count Total	0	1	2	0	0	0	4	1	0	0	7	2	0	0	0	0	17	0
Peak Hour	0	1	2	0	0	0	2	0	0	0	2	0	0	0	0	0	7	0

Internal		E 2ND ST	Т		E 2ND S	Т	S	DURBIN	ST	SI	DURBIN	ST	45	Dalling
Interval Start	E	astboun	d	V	Vestboun	ıd	N	lorthbour	nd	S	outhbour	nd	15-min Total	Rolling One Hour
Otare	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Total	One near
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



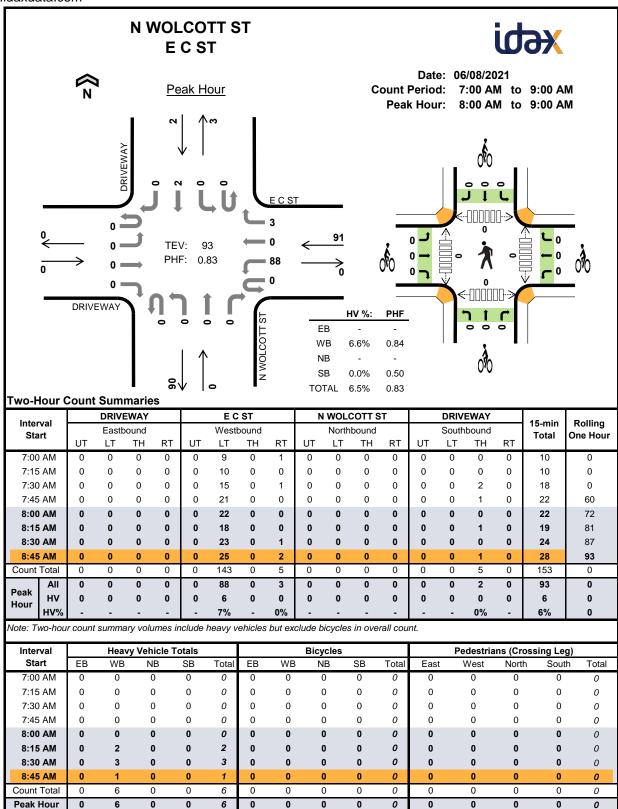
Interval	Е	MIDW	EST AV	/E		(	0			S DUR	BIN ST	•		S DUR	BIN ST	•	45 min	Dalling
Start		Eastb	ound			Westl	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	Ono mou
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0
7:30 AM	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	0
7:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	6
8:00 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	8
8:15 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	8
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
8:45 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	6
Count Total	0	6	0	1	0	0	0	0	0	0	5	0	0	0	0	0	12	0
Peak Hour	0	4	0	1	0	0	0	0	0	0	3	0	0	0	0	0	8	0

Interval	EM	DWEST	AVE		0		S	DURBIN	ST	S	DURBIN	ST	15-min	Rolling
Start	E	astboun	d	V	Vestbour	nd	N	Northbou	nd	S	outhbou	nd	Total	One Hour
Otart	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	i otai	Ono mour
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



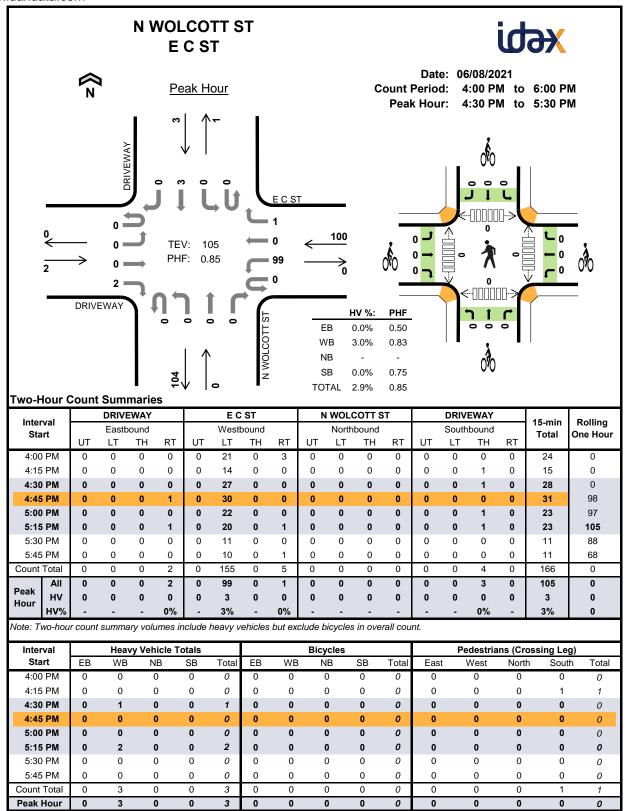
Interval	Е	MIDW	EST AV	/E		(	0			S DUR	BIN ST	•		S DUR	BIN ST	•	45	Dalling
Start		Eastb	ound			West	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	υT	LT	TH	RT	Total	One flour
4:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0
4:30 PM	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	4
5:30 PM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	4
5:45 PM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	6
Count Total	0	2	0	2	0	0	0	0	0	0	7	0	0	0	0	0	11	0
Peak Hour	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	4	0

Interval	ΕM	IDWEST	AVE		0		S	DURBIN	ST	S	DURBIN	ST	15-min	Rolling
Start	E	Eastboun	d	٧	Vestbour	nd	١	lorthbou	nd	S	outhbour	nd	Total	One Hour
- Claire	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		0.10 1.10
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



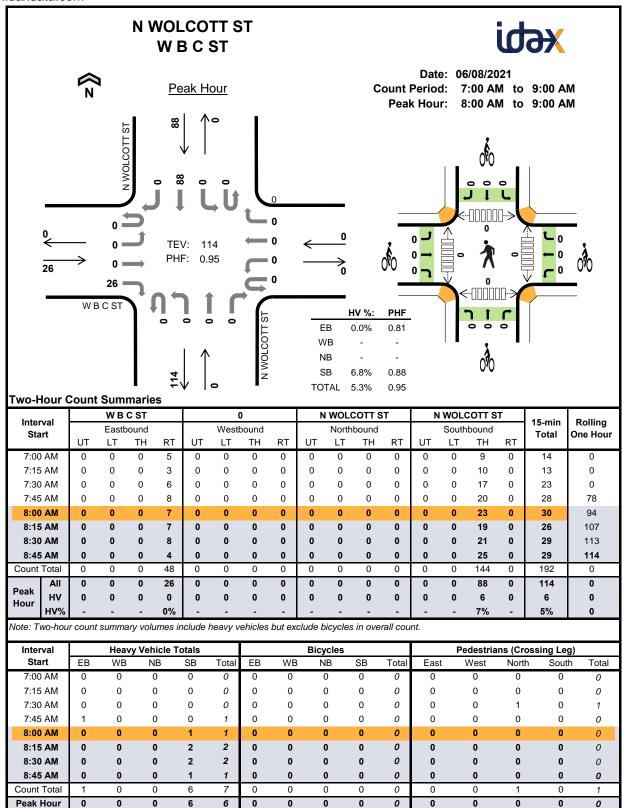
Interval		DRIV	EWAY			ΕC	ST		N	WOL	COTTS	T		DRIV	EWAY		15-min	Rolling
Start		Eastb	oound			Westl	bound			North	bound			South	bound		Total	One Hour
Otart	UT	LT	TH	RT	Total	Ono mou												
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	2
8:30 AM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	5
8:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	6
Count Total	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6	0
Peak Hour	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6	0

luto m ral	D	RIVEWA	Υ		E C ST		N W	OLCOT	T ST	D	RIVEWA	Υ	45	Dalling
Interval Start	E	astboun	d	V	Vestbour	nd	N	lorthbou	nd	S	outhbour	nd	15-min Total	Rolling One Hour
Otart	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	i otai	Ono rioui
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



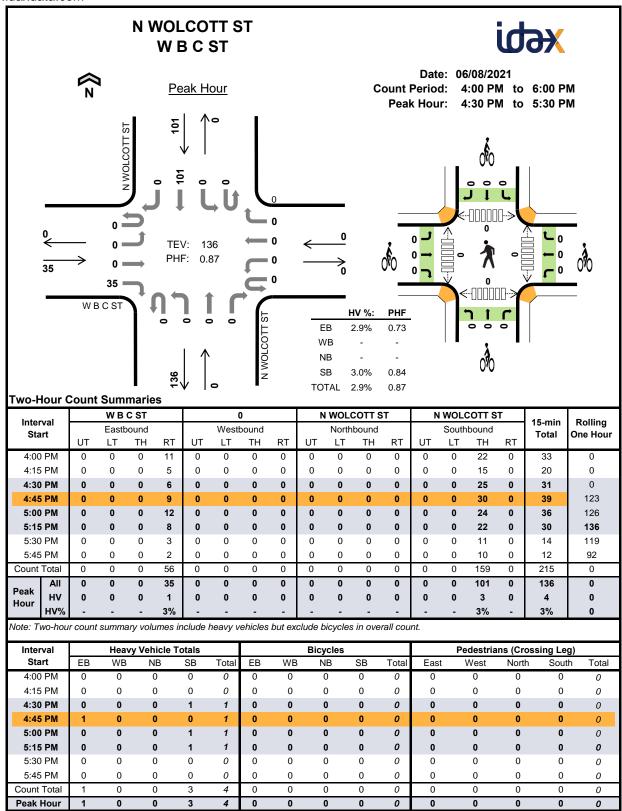
Interval		DRIV	EWAY			ΕC	ST		N	WOL	COTT S	T		DRIV	EWAY		45 min	Dalling
Start		Eastb	ound			Westl	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	One nour
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	0
Peak Hour	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	0

Interval	D	RIVEWA	Y		E C ST		NW	OLCOT	TST	D	RIVEWA	·Υ	15-min	Rolling
Start	Е	astboun	d	٧	Vestboun	ıd	N	lorthbour	nd	S	outhbour	nd	Total	One Hour
J.a	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		0.10 1.10
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



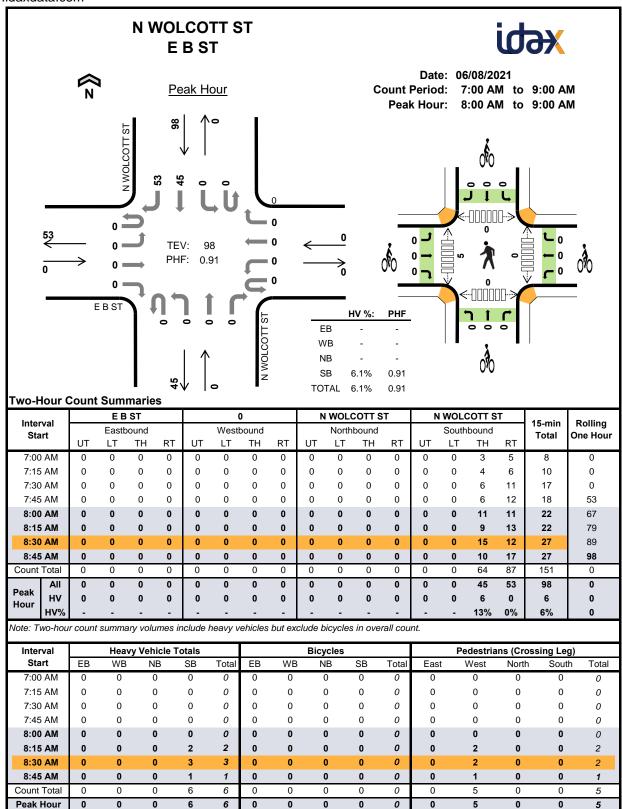
14		WB	C ST				0		N	WOL	COTT S	Т	N	WOL	OTT S	T	45	D-111
Interval Start		Eastb	ound			West	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	Ono mou
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	6
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6
Count Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	6	0	7	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0

Interval	,	W B C S1	Т		0		N W	OLCOT	T ST	N W	OLCOT	T ST	45 min	Dalling
Interval Start	E	Eastboun	d	V	Vestbour	nd	N	lorthbour	nd	S	outhbour	nd	15-min Total	Rolling One Hour
Start	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Total	Ono rioui
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



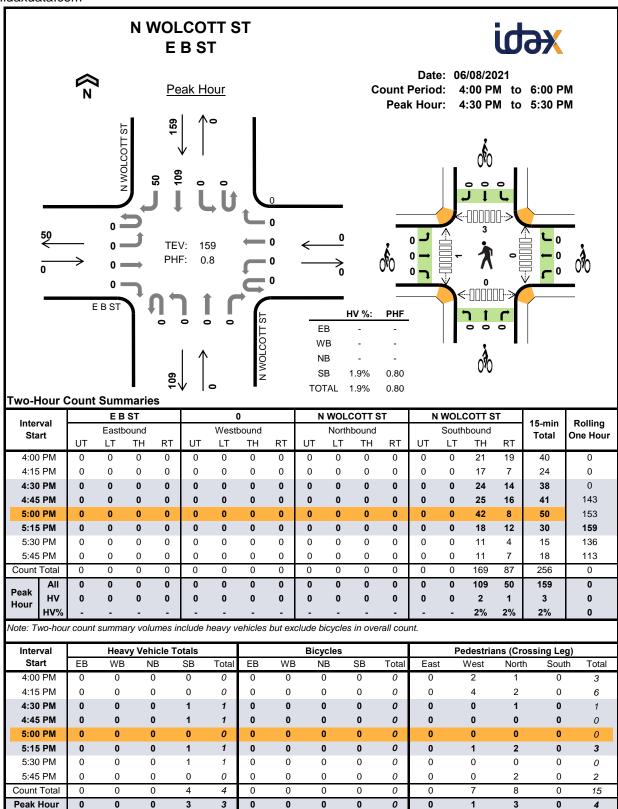
Two-Hour C	Count	Sum	marie	s - He	eavy \	<b>V</b> ehic	les											
Intomial		WВ	C ST				0		N	WOL	COTT S	T	N	WOL	COTT S	Т	45	Delling
Interval Start		Eastb	ound			West	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Gtart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	One nou
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	4	0
Peak Hour	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	4	0

lmtom rol	,	WBCS	Т		0		N W	OLCOT	T ST	N W	OLCOT	ГЅТ	45	Dalling
Interval Start	E	Eastboun	d	V	Vestbour	nd	N	lorthbour	nd	S	outhbour	nd	15-min Total	Rolling One Hour
Otart	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Total	Ono rioui
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



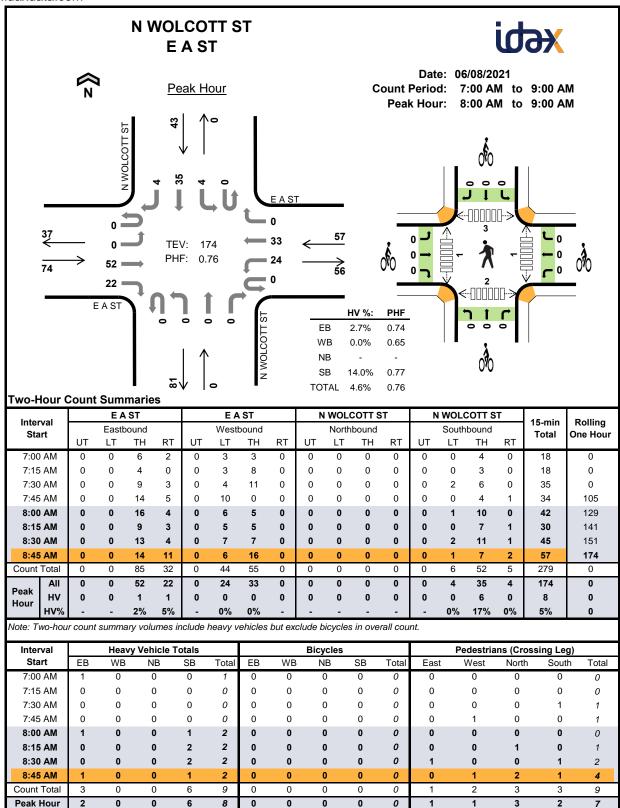
Interval		ΕB	ST			(	0		N	WOL	COTTS	T	N	WOL	COTT S	T	45	Dalling
Start		Eastb	ound			Westl	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	One moun
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	5
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0

Interval		E B ST			0		N W	OLCOT	T ST	N W	OLCOT	T ST	45	Delling
Interval Start		Eastboun	d	V	Vestbour	nd	N	lorthbour	nd	S	outhbour	nd	15-min Total	Rolling One Hour
Otart	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	i otai	Ono mou
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



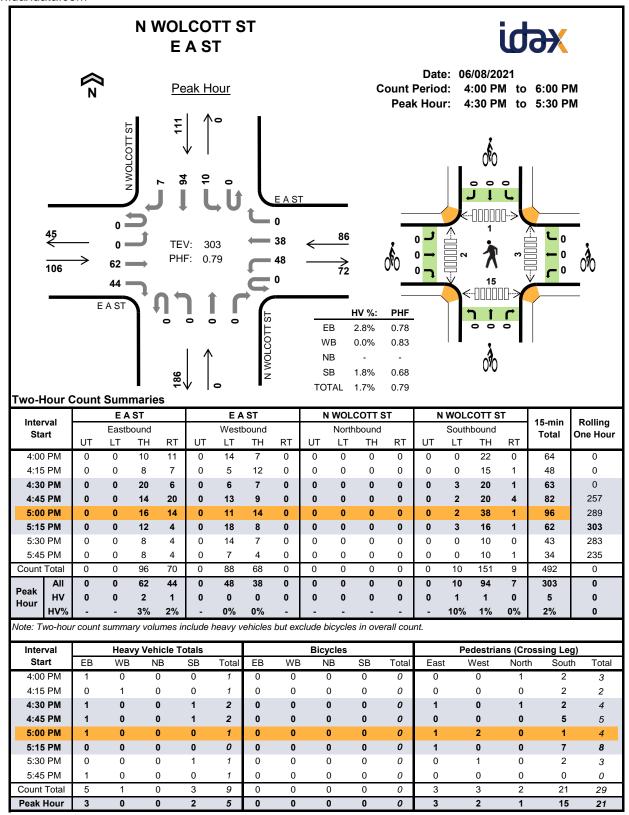
1-4		ΕB	ST			(	0		N	WOL	COTT S	T	N	WOL	OTT S	T	45	D-111
Interval Start		Eastb	ound			Westl	oound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	lotai	One nour
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0 0 0 0				0	0	0	0	0	0	0	0	0	0	3	1	4	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	0

Intonial		E B ST			0		N W	OLCOT	T ST	N W	OLCOT	ГЅТ	45	Dalling
Interval Start	E	Eastboun	d	٧	Vestbour	nd	N	lorthbour	nd	S	outhbour	nd	15-min Total	Rolling One Hour
Otart	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Total	Ono rioui
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



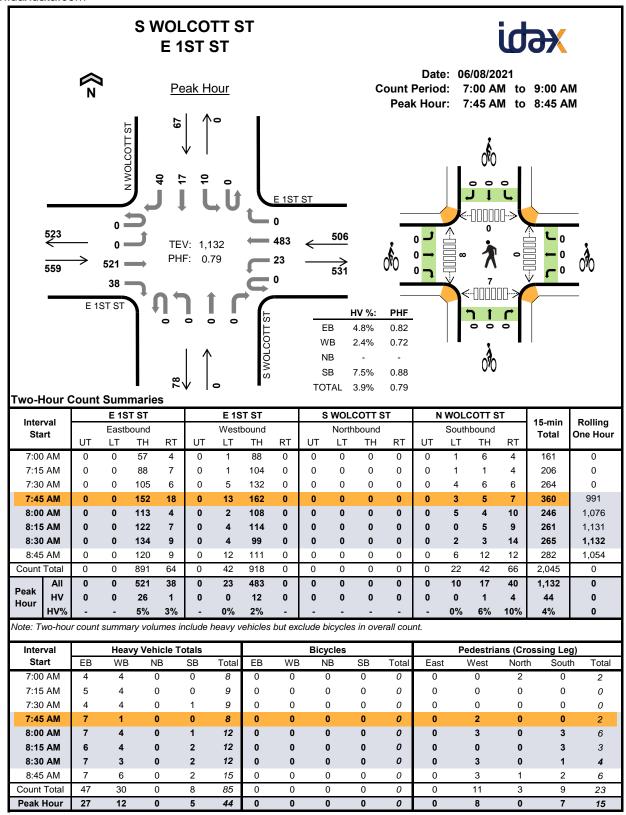
Intomol		ΕA	ST			ΕA	ST		N	WOL	COTTS	T	N	WOL	COTT S	Т	45 min	Dalling
Interval Start		Eastb	ound			Westl	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	One moun
7:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	2	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	6
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	8
Count Total	0	0	1	2	0	0	0	0	0	0	0	0	0	0	6	0	9	0
Peak Hour	0	0	1	1	0	0	0	0	0	0	0	0	0	0	6	0	8	0

Interval		E A ST			E A ST		N W	OLCOT	T ST	N W	OLCOT	T ST	15-min	Dalling
Start	E	Eastboun	d	V	Vestbour	nd	N	lorthbour	nd	S	outhbour	nd	Total	Rolling One Hour
Start	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	i otai	Ono rioui
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



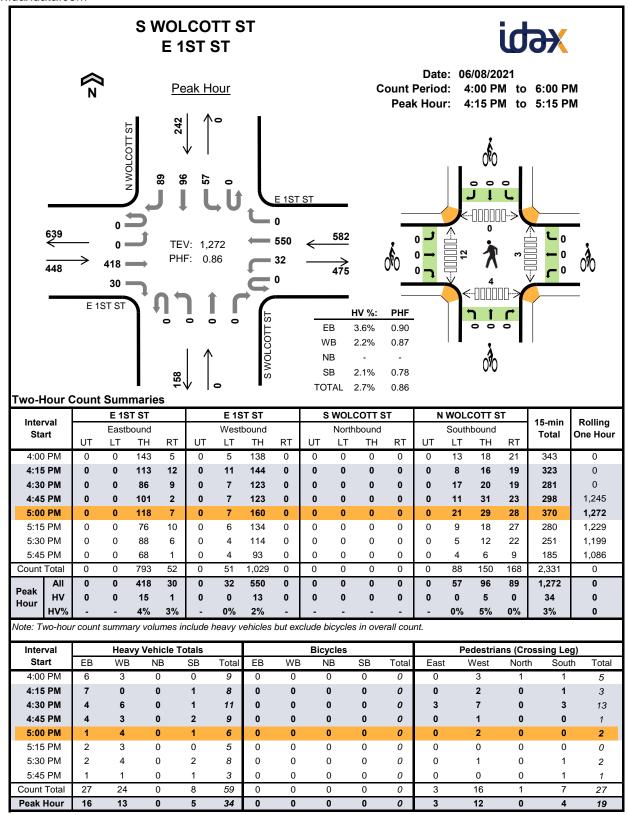
		ΕA	ST			ΕA	ST		N	WOL	COTTS	T	N	WOL	COTT S	T		
Interval Start		Eastb	ound			West	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Start	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	One nour
4:00 PM				1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0
4:45 PM	0 0 1 0			0	0	0	0	0	0	0	0	0	0	1	0	0	2	6
5:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4
5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3
Count Total	0				0	1	0	0	0	0	0	0	0	1	2	0	9	0
Peak Hour	0	0	2	1	0	0	0	0	0	0	0	0	0	1	1	0	5	0

Interval		E A ST			E A ST		N W	OLCOT	T ST	N W	OLCOT	T ST	15-min	Rolling
Start	E	astboun	d	V	Vestbour	nd	١	lorthbour	nd	S	outhbour	nd	Total	One Hour
J.a	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		0.101.104.1
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



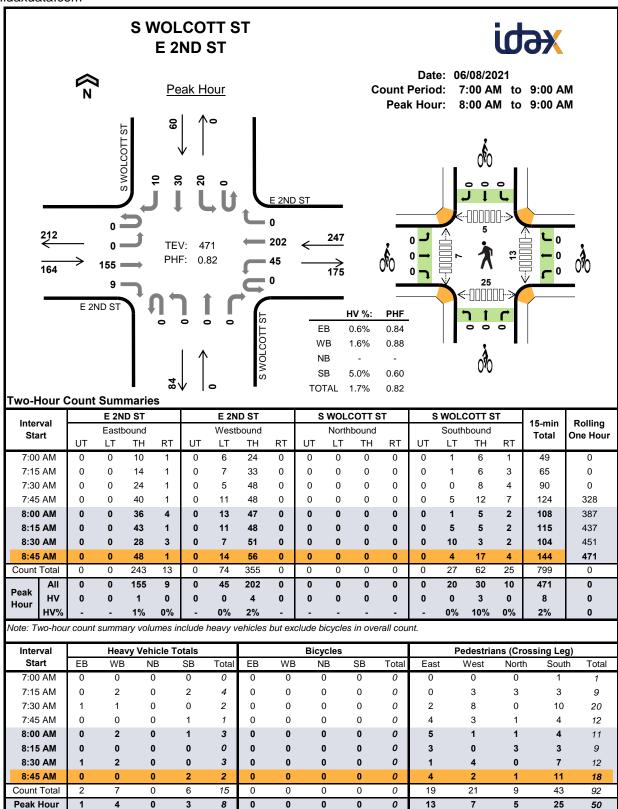
Interval		E 1S	T ST			E 18	T ST		S	WOL	COTTS	T	N	WOL	COTT S	Т	15-min	Rolling
Start		Eastb	oound			West	bound			North	bound			South	bound		Total	One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	Ono mou
7:00 AM	0	0	3	1	0	1	3	0	0	0	0	0	0	0	0	0	8	0
7:15 AM	0	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	9	0
7:30 AM	0	0	4	0	0	0	4	0	0	0	0	0	0	1	0	0	9	0
7:45 AM	0	0	6	1	0	0	1	0	0	0	0	0	0	0	0	0	8	34
8:00 AM	0	0	7	0	0	0	4	0	0	0	0	0	0	0	1	0	12	38
8:15 AM	0	0	6	0	0	0	4	0	0	0	0	0	0	0	0	2	12	41
8:30 AM	0	0	7	0	0	0	3	0	0	0	0	0	0	0	0	2	12	44
8:45 AM	0	0	7	0	0	1	5	0	0	0	0	0	0	0	1	1	15	51
Count Total	0	0	45	2	0	2	28	0	0	0	0	0	0	1	2	5	85	0
Peak Hour	0	0	26	1	0	0	12	0	0	0	0	0	0	0	1	4	44	0

Interval		E 1ST ST	Ī		E 1ST S	Γ	SW	OLCOT	TST	N W	OLCOT	ГЅТ	15-min	Rolling
Start	Е	Eastboun	d	٧	Vestbour	ıd	N	lorthbour	nd	S	outhbour	nd	Total	One Hour
J.L.	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		0.10 1.10
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



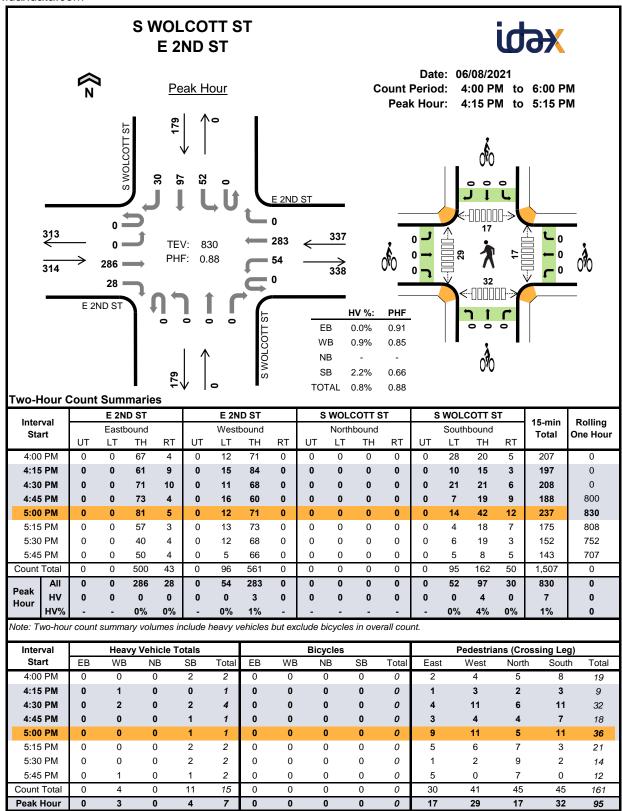
Interval		E 1S	T ST			E 18	T ST		S	WOL	COTT S	T	N	WOL	COTT S	T	45	Rolling
Start		Eastb	ound			West	bound			North	bound			South	bound		15-min Total	One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	υT	LT	TH	RT	Total	One nou
4:00 PM	0	0	6	0	0	0	3	0	0	0	0	0	0	0	0	0	9	0
4:15 PM	0	0	6	1	0	0	0	0	0	0	0	0	0	0	1	0	8	0
4:30 PM	0	0	4	0	0	0	6	0	0	0	0	0	0	0	1	0	11	0
4:45 PM	0	0	4	0	0	0	3	0	0	0	0	0	0	0	2	0	9	37
5:00 PM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	1	0	6	34
5:15 PM	0	0	1	1	0	0	3	0	0	0	0	0	0	0	0	0	5	31
5:30 PM	0	0	2	0	0	0	4	0	0	0	0	0	0	0	1	1	8	28
5:45 PM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	3	22
Count Total	0	0	24	3	0	0	24	0	0	0	0	0	0	0	7	1	59	0
Peak Hour	0	0	15	1	0	0	13	0	0	0	0	0	0	0	5	0	34	0

luto m ral		E 1ST ST	Γ		E 1ST S	Γ	S W	OLCOT	TST	N W	OLCOT	ГЅТ	45	Dalling
Interval Start	E	Eastboun	d	V	Vestbour	nd	N	lorthbour	nd	S	outhbour	nd	15-min Total	Rolling One Hour
Otart	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Total	Ono rioui
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



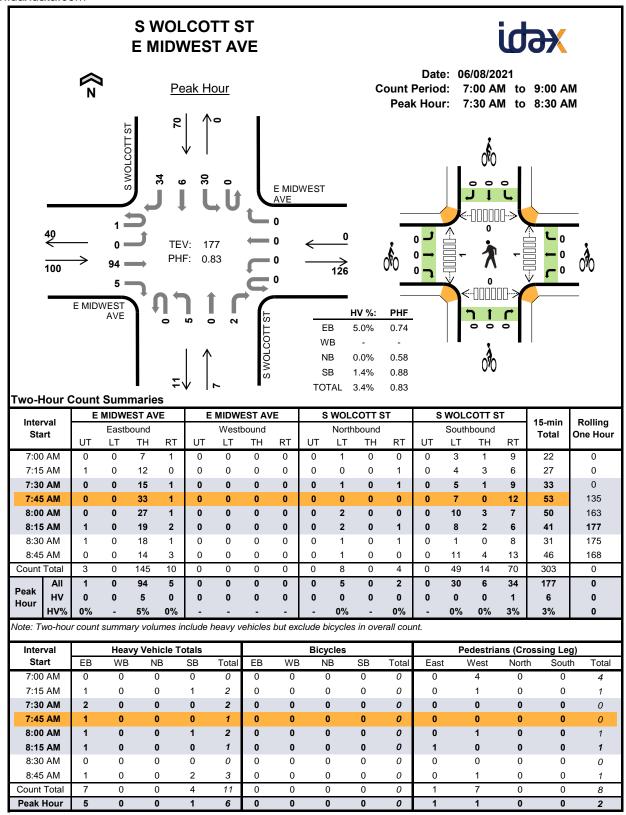
Interval		E 2N	D ST			E 2N	D ST		S	WOL	COTTS	T	8	WOL	COTT S	T	45 min	Dalling
Start		Eastb	ound			West	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	One moun
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	4	0
7:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	7
8:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	3	10
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
8:30 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	7
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	8
Count Total	0	0	2	0	0	1	6	0	0	0	0	0	0	1	3	2	15	0
Peak Hour	0	0	1	0	0	0	4	0	0	0	0	0	0	0	3	0	8	0

late mod		E 2ND S	Г		E 2ND S	Т	S W	OLCOT	T ST	S W	OLCOT	т ѕт	45 main	Dalling
Interval Start		Eastboun	d	V	Vestbour	nd	N	lorthbou	nd	S	outhbour	nd	15-min Total	Rolling One Hour
J.L.	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		0.101.104.1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



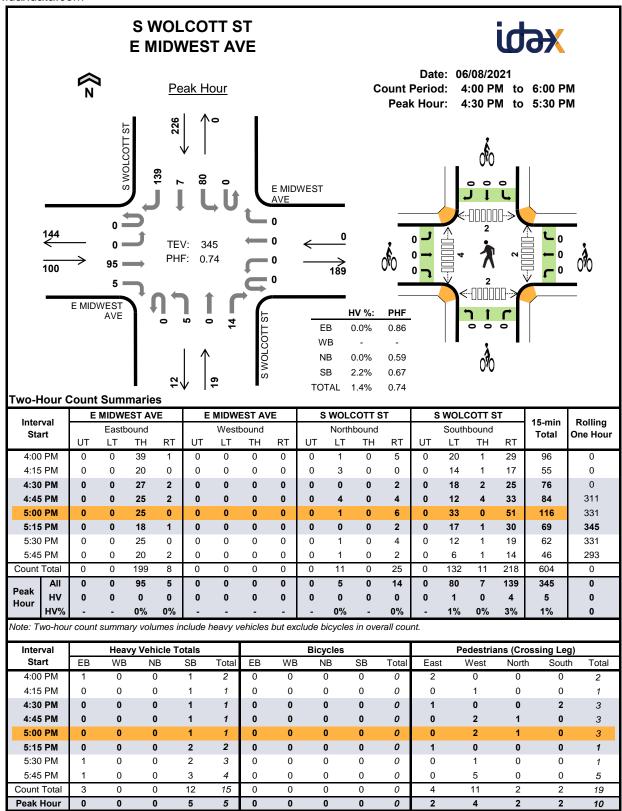
Interval		E 2N	D ST			E 2N	D ST		S	WOL	COTT S	T	S	WOL	COTT S	T	45	Dalling
Interval Start		Eastb	ound			West	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	One mour
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	4	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	8
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	7
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	8
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	6
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2	7
Count Total	0	0	0	0	0	1	3	0	0	0	0	0	0	1	10	0	15	0
Peak Hour	0	0	0	0	0	0	3	0	0	0	0	0	0	0	4	0	7	0

lete mod		E 2ND ST	Т		E 2ND S	Т	S W	OLCOT	TST	S W	OLCOT	гѕт	45	Dalling
Interval Start	Е	astboun	d	V	Vestbour	nd	N	lorthbour	nd	S	outhbour	nd	15-min Total	Rolling One Hour
Otare	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	Total	One near
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



141	E	MIDWI	EST AV	Έ	Е	MIDW	EST A\	/E	S	WOL	COTT S	Т	S	WOLC	OTT S	Т	45	D - 111
Interval Start		Eastb	ound			Westl	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	l lotai	One nour
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0
7:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	7
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	3	6
Count Total	0	0	7	0	0	0	0	0	0	0	0	0	0	0	1	3	11	0
Peak Hour	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	1	6	0

Interval	ΕM	IDWEST	AVE	EM	IDWEST	AVE	S W	OLCOT	TST	S W	OLCOT	гѕт	45	Dalling
Interval Start	E	Eastboun	d	V	Vestbour	nd	N	lorthbour	nd	S	outhbour	nd	15-min Total	Rolling One Hour
Start	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	i otai	Ono mou
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Interval	Е	MIDWI	EST AV	Æ	Е	MIDW	EST A	/E	S	WOL	COTTS	T	8	WOL	COTT S	T	45	Dalling
Start		Eastb	ound			West	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Otart	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	One nour
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	5
5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	3	7
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	4	10
Count Total	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	11	15	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	5	0

Intonial	ΕM	IDWEST	AVE	EM	IDWEST	AVE	S W	OLCOT	T ST	S W	OLCOT	T ST	45	Dalling
Interval Start	E	Eastboun	d	V	Vestbour	nd	N	lorthbour	nd	S	outhbour	nd	15-min Total	Rolling One Hour
Otart	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	i otai	Ono rioui
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

# Vehicle Class, Speed, and ADT Counts





Count Direction: Northbound / Southbound

Date Range: 6/8/2021 to 6/8/2021

Site Code: 01

						FHWA Ve	hicle Clas	sification						Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	Volume
						Study	Total							
Northbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Southbound	29	662	373	0	375	5	0	1	6	0	0	0	0	1,451
Percent	2.0%	45.6%	25.7%	0.0%	25.8%	0.3%	0.0%	0.1%	0.4%	0.0%	0.0%	0.0%	0.0%	100%
Total	29	662	373	0	375	5	0	1	6	0	0	0	0	1,451
Percent	2.0%	45.6%	25.7%	0.0%	25.8%	0.3%	0.0%	0.1%	0.4%	0.0%	0.0%	0.0%	0.0%	100%

FHWA Vehicle Classification	
Class 1 - Motorcycles	Class 8 - Four or Fewer Axle Single-Trailer Trucks
Class 2 - Passenger Cars	Class 9 - Five-Axle Single-Trailer Trucks
Class 3 - Other Two-Axle, Four-Tire Single Unit Vehicles	Class 10 - Six or More Axle Single-Trailer Trucks
Class 4 - Buses	Class 11 - Five or fewer Axle Multi-Trailer Trucks
Class 5 - Two-Axle, Six-Tire, Single-Unit Trucks	Class 12 - Six-Axle Multi-Trailer Trucks
Class 6 - Three-Axle Single-Unit Trucks	Class 13 - Seven or More Axle Multi-Trailer Trucks
Class 7 - Four or More Axle Single-Unit Trucks	

Date Range: 6/8/2021 to 6/8/2021

Site Code: 01



#### Tuesday, June 8, 2021 Southbound

						FHWA Ve	hicle Clas	sification						Total
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	Volume
12:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	2
4:00 AM	0	0	0	0	2	1	0	0	0	0	0	0	0	3
5:00 AM	0	4	1	0	1	0	0	0	0	0	0	0	0	6
6:00 AM	2	4	5	0	8	0	0	0	0	0	0	0	0	19
7:00 AM	3	20	13	0	6	0	0	0	0	0	0	0	0	42
8:00 AM	2	27	19	0	24	2	0	0	1	0	0	0	0	75
9:00 AM	3	32	17	0	33	0	0	0	1	0	0	0	0	86
10:00 AM	3	49	23	0	30	0	0	0	0	0	0	0	0	105
11:00 AM	4	64	39	0	36	0	0	1	0	0	0	0	0	144
12:00 PM	0	69	44	0	39	0	0	0	1	0	0	0	0	153
1:00 PM	1	48	27	0	36	0	0	0	1	0	0	0	0	113
2:00 PM	2	49	30	0	31	0	0	0	0	0	0	0	0	112
3:00 PM	0	62	31	0	29	0	0	0	1	0	0	0	0	123
4:00 PM	3	82	35	0	37	0	0	0	1	0	0	0	0	158
5:00 PM	1	82	45	0	31	2	0	0	0	0	0	0	0	161
6:00 PM	0	22	16	0	15	0	0	0	0	0	0	0	0	53
7:00 PM	3	14	9	0	4	0	0	0	0	0	0	0	0	30
8:00 PM	2	17	9	0	7	0	0	0	0	0	0	0	0	35
9:00 PM	0	6	4	0	2	0	0	0	0	0	0	0	0	12
10:00 PM	0	6	3	0	3	0	0	0	0	0	0	0	0	12
11:00 PM	0	3	0	0	1	0	0	0	0	0	0	0	0	4
Total	29	662	373	0	375	5	0	1	6	0	0	0	0	1,451
Percent	2.0%	45.6%	25.7%	0.0%	25.8%	0.3%	0.0%	0.1%	0.4%	0.0%	0.0%	0.0%	0.0%	

Date Range: 6/8/2021 to 6/8/2021

Site Code: 01



## Total Study Average Northbound

						FHWA V	ehicle Clas	sification						Total
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	Volume
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	

Date Range: 6/8/2021 to 6/8/2021

Site Code: 01



## Total Study Average Southbound

						FHWA Ve	hicle Clas	sification						Total
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	Volume
12:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	2
4:00 AM	0	0	0	0	2	1	0	0	0	0	0	0	0	3
5:00 AM	0	4	1	0	1	0	0	0	0	0	0	0	0	6
6:00 AM	2	4	5	0	8	0	0	0	0	0	0	0	0	19
7:00 AM	3	20	13	0	6	0	0	0	0	0	0	0	0	42
8:00 AM	2	27	19	0	24	2	0	0	1	0	0	0	0	75
9:00 AM	3	32	17	0	33	0	0	0	1	0	0	0	0	86
10:00 AM	3	49	23	0	30	0	0	0	0	0	0	0	0	105
11:00 AM	4	64	39	0	36	0	0	1	0	0	0	0	0	144
12:00 PM	0	69	44	0	39	0	0	0	1	0	0	0	0	153
1:00 PM	1	48	27	0	36	0	0	0	1	0	0	0	0	113
2:00 PM	2	49	30	0	31	0	0	0	0	0	0	0	0	112
3:00 PM	0	62	31	0	29	0	0	0	1	0	0	0	0	123
4:00 PM	3	82	35	0	37	0	0	0	1	0	0	0	0	158
5:00 PM	1	82	45	0	31	2	0	0	0	0	0	0	0	161
6:00 PM	0	22	16	0	15	0	0	0	0	0	0	0	0	53
7:00 PM	3	14	9	0	4	0	0	0	0	0	0	0	0	30
8:00 PM	2	17	9	0	7	0	0	0	0	0	0	0	0	35
9:00 PM	0	6	4	0	2	0	0	0	0	0	0	0	0	12
10:00 PM	0	6	3	0	3	0	0	0	0	0	0	0	0	12
11:00 PM	0	3	0	0	1	0	0	0	0	0	0	0	0	4
Total	29	662	373	0	375	5	0	1	6	0	0	0	0	1,451
Percent	2.0%	45.6%	25.7%	0.0%	25.8%	0.3%	0.0%	0.1%	0.4%	0.0%	0.0%	0.0%	0.0%	

Date Range: 6/8/2021 to 6/8/2021

Site Code: 01



## 3-Day (Tuesday - Thursday) Average Northbound

						FHWA Ve	hicle Clas	sification						Total
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	Volume
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	

Date Range: 6/8/2021 to 6/8/2021

Site Code: 01



## 3-Day (Tuesday - Thursday) Average Southbound

						FHWA Ve	hicle Clas	sification						Total
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	Volume
12:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	2
4:00 AM	0	0	0	0	2	1	0	0	0	0	0	0	0	3
5:00 AM	0	4	1	0	1	0	0	0	0	0	0	0	0	6
6:00 AM	2	4	5	0	8	0	0	0	0	0	0	0	0	19
7:00 AM	3	20	13	0	6	0	0	0	0	0	0	0	0	42
8:00 AM	2	27	19	0	24	2	0	0	1	0	0	0	0	75
9:00 AM	3	32	17	0	33	0	0	0	1	0	0	0	0	86
10:00 AM	3	49	23	0	30	0	0	0	0	0	0	0	0	105
11:00 AM	4	64	39	0	36	0	0	1	0	0	0	0	0	144
12:00 PM	0	69	44	0	39	0	0	0	1	0	0	0	0	153
1:00 PM	1	48	27	0	36	0	0	0	1	0	0	0	0	113
2:00 PM	2	49	30	0	31	0	0	0	0	0	0	0	0	112
3:00 PM	0	62	31	0	29	0	0	0	1	0	0	0	0	123
4:00 PM	3	82	35	0	37	0	0	0	1	0	0	0	0	158
5:00 PM	1	82	45	0	31	2	0	0	0	0	0	0	0	161
6:00 PM	0	22	16	0	15	0	0	0	0	0	0	0	0	53
7:00 PM	3	14	9	0	4	0	0	0	0	0	0	0	0	30
8:00 PM	2	17	9	0	7	0	0	0	0	0	0	0	0	35
9:00 PM	0	6	4	0	2	0	0	0	0	0	0	0	0	12
10:00 PM	0	6	3	0	3	0	0	0	0	0	0	0	0	12
11:00 PM	0	3	0	0	1	0	0	0	0	0	0	0	0	4
Total	29	662	373	0	375	5	0	1	6	0	0	0	0	1,451
Percent	2.0%	45.6%	25.7%	0.0%	25.8%	0.3%	0.0%	0.1%	0.4%	0.0%	0.0%	0.0%	0.0%	

### Vehicle Speed Report Summary



Location: 01\_N WOLCOTT ST N-O E 1ST ST

**Count Direction: Northbound / Southbound** 

Date Range: 6/8/2021 to 6/8/2021

Site Code: 01

								Speed	d Range (	(mph)								Total
	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	Volume
								Stud	y Total									
Northbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Southbound	13	89	354	733	234	27	1	0	0	0	0	0	0	0	0	0	0	1,451
Percent	0.9%	6.1%	24.4%	50.5%	16.1%	1.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Total	13	89	354	733	234	27	1	0	0	0	0	0	0	0	0	0	0	1,451
Percent	0.9%	6.1%	24.4%	50.5%	16.1%	1.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Total Study Percentile Spee	d Summa	ıry	Total Study Spee	d Statistics	
Northbound			Northbound		
50th Percentile (Median)	0.0	mph	Mean (Average) Speed	0.0	mph
85th Percentile	0.0	mph	10 mph Pace	.0 - 10.0	mph
95th Percentile	0.0	mph	Percent in Pace	0.0	%
Southbound			Southbound		
50th Percentile (Median)	21.7	mph	Mean (Average) Speed	21.5	mph
85th Percentile	25.5	mph	10 mph Pace	17.1 - 27.1	mph
95th Percentile	28.0	mph	Percent in Pace	80.4	%

Date Range: 6/8/2021 to 6/8/2021

Site Code: 01



#### Tuesday, June 8, 2021 Southbound

								Spee	d Range	(mph)								Total
Time	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	Volume
12:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:00 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:00 AM	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:00 AM	0	1	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	6
6:00 AM	0	0	1	15	3	0	0	0	0	0	0	0	0	0	0	0	0	19
7:00 AM	0	2	6	20	13	1	0	0	0	0	0	0	0	0	0	0	0	42
8:00 AM	1	9	25	28	8	4	0	0	0	0	0	0	0	0	0	0	0	75
9:00 AM	2	8	34	32	9	1	0	0	0	0	0	0	0	0	0	0	0	86
10:00 AM	1	7	31	51	13	2	0	0	0	0	0	0	0	0	0	0	0	105
11:00 AM	3	5	43	73	19	1	0	0	0	0	0	0	0	0	0	0	0	144
12:00 PM	0	11	41	81	20	0	0	0	0	0	0	0	0	0	0	0	0	153
1:00 PM	1	8	28	53	20	3	0	0	0	0	0	0	0	0	0	0	0	113
2:00 PM	1	12	21	51	22	5	0	0	0	0	0	0	0	0	0	0	0	112
3:00 PM	1	5	35	63	18	1	0	0	0	0	0	0	0	0	0	0	0	123
4:00 PM	1	9	41	85	18	4	0	0	0	0	0	0	0	0	0	0	0	158
5:00 PM	0	7	25	93	35	1	0	0	0	0	0	0	0	0	0	0	0	161
6:00 PM	0	2	5	30	15	1	0	0	0	0	0	0	0	0	0	0	0	53
7:00 PM	0	0	4	16	7	2	1	0	0	0	0	0	0	0	0	0	0	30
8:00 PM	2	1	4	22	6	0	0	0	0	0	0	0	0	0	0	0	0	35
9:00 PM	0	0	3	6	2	1	0	0	0	0	0	0	0	0	0	0	0	12
10:00 PM	0	1	2	7	2	0	0	0	0	0	0	0	0	0	0	0	0	12
11:00 PM	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	13	89	354	733	234	27	1	0	0	0	0	0	0	0	0	0	0	1,451
Percent	0.9%	6.1%	24.4%	50.5%	16.1%	1.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Daily Percentile Speed	Summary		Speed Stat	istics	
50th Percentile (Median)	21.7	mph	Mean (Average) Speed	21.5	mph
85th Percentile	25.5	mph	10 mph Pace	17.1 - 27.1	mph
95th Percentile	28.0	mph	Percent in Pace	80.36	%

Date Range: 6/8/2021 to 6/8/2021

Site Code: 01



### **Total Study Average**

#### Northbound

								Spee	d Range	mph)								Total
Time	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	Volume
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Total Study Percentile Spee	ed Summa	ıry	Total Study Speed	Statistics	
50th Percentile (Median)	0.0	mph	Mean (Average) Speed	0.0	mph
85th Percentile	0.0	mph	10 mph Pace	.0 - 10.0	mph
95th Percentile	0.0	mph	Percent in Pace	0.0	%

Date Range: 6/8/2021 to 6/8/2021

Site Code: 01



### Total Study Average Southbound

								Spee	d Range	(mph)								Total
Time	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	Volume
12:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:00 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:00 AM	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:00 AM	0	1	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	6
6:00 AM	0	0	1	15	3	0	0	0	0	0	0	0	0	0	0	0	0	19
7:00 AM	0	2	6	20	13	1	0	0	0	0	0	0	0	0	0	0	0	42
8:00 AM	1	9	25	28	8	4	0	0	0	0	0	0	0	0	0	0	0	75
9:00 AM	2	8	34	32	9	1	0	0	0	0	0	0	0	0	0	0	0	86
10:00 AM	1	7	31	51	13	2	0	0	0	0	0	0	0	0	0	0	0	105
11:00 AM	3	5	43	73	19	1	0	0	0	0	0	0	0	0	0	0	0	144
12:00 PM	0	11	41	81	20	0	0	0	0	0	0	0	0	0	0	0	0	153
1:00 PM	1	8	28	53	20	3	0	0	0	0	0	0	0	0	0	0	0	113
2:00 PM	1	12	21	51	22	5	0	0	0	0	0	0	0	0	0	0	0	112
3:00 PM	1	5	35	63	18	1	0	0	0	0	0	0	0	0	0	0	0	123
4:00 PM	1	9	41	85	18	4	0	0	0	0	0	0	0	0	0	0	0	158
5:00 PM	0	7	25	93	35	1	0	0	0	0	0	0	0	0	0	0	0	161
6:00 PM	0	2	5	30	15	1	0	0	0	0	0	0	0	0	0	0	0	53
7:00 PM	0	0	4	16	7	2	1	0	0	0	0	0	0	0	0	0	0	30
8:00 PM	2	1	4	22	6	0	0	0	0	0	0	0	0	0	0	0	0	35
9:00 PM	0	0	3	6	2	1	0	0	0	0	0	0	0	0	0	0	0	12
10:00 PM	0	1	2	7	2	0	0	0	0	0	0	0	0	0	0	0	0	12
11:00 PM	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	13	89	354	733	234	27	1	0	0	0	0	0	0	0	0	0	0	1,451
Percent	0.9%	6.1%	24.4%	50.5%	16.1%	1.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Total Study Percentile Spe	ed Summa	iry	Total Study Spee	d Statistics	
50th Percentile (Median)	21.7	mph	Mean (Average) Speed	21.5	mph
85th Percentile	25.5	mph	10 mph Pace	17.1 - 27.1	mph
95th Percentile	28.0	mph	Percent in Pace	80.4	%



 Location:
 01\_N WOLCOTT ST N-O E 1ST ST

 Date Range:
 6/8/2021 - 6/14/2021

 Site Code:
 01

		Tuesda	у	W	/ednesd	lay		Thursda	ıy		Friday	,	;	Saturda	у		Sunday	/		Monda	у			
		6/8/202	1		6/9/202	1	(	6/10/202	:1		6/11/202	21		6/12/202	21	6	6/13/202	21	(	6/14/202	21	Mid-V	Veek Av	/erage
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	0	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1
1:00 AM	0	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1
2:00 AM	0	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1
3:00 AM	0	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	2	2
4:00 AM	0	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	3	3
5:00 AM	0	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	6	6
6:00 AM	0	19	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	19	19
7:00 AM	0	42	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	42	42
8:00 AM	0	75	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	75	75
9:00 AM	0	86	86	-	_	-	-	_	-	_	-	-	_		-	-	_	_	-	-	_	0	86	86
10:00 AM	0	105	105	_	_	-	-	_	-	_	-	-	_	_	_	_	_	_	-	_	_	0	105	105
11:00 AM	0	144	144	_	_	-	_	_	-	_	_	_	_	_	_	_	-	_	_	_	_	0	144	144
12:00 PM	0	153	153	_	_	-	-	_	-	_	-	-	_	_	_	_	_	_	-	_	_	0	153	153
1:00 PM	0	113	113	_	_	-	-	-	-	-	-	-	_	-	_	_	-	_	-	-	_	0	113	113
2:00 PM	0	112	112	-	_	-	-	-	-	-	-	-	_	-	-	_	_	-	-	-	-	0	112	112
3:00 PM	0	123	123	_	_	_	_	_	-	_	_	-	_	_	_	_	_	_	_	_	_	0	123	123
4:00 PM	0	158	158	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	0	158	158
5:00 PM	0	161	161	_	_	_	_	_	-	_	_	-	_	_	_	_	_	_	_	_	_	0	161	161
6:00 PM	0	53	53	-	-	-	_	_	-	-	_	-	-	-	-	-	-	-	_	_	-	0	53	53
7:00 PM	0	30	30	_	-	-	_	-	-	-	-	-	-	-	-	-	_	-	-	_	-	0	30	30
8:00 PM	0	35	35	-	-	_	-	-	_	-	-	_	-	-	_	-	-	_	-	_	_	0	35	35
9:00 PM	0	12	12	-	-	-	_	-	-	-	_	_	-	-	_	-	-	-	-	_	-	0	12	12
10:00 PM	0	12	12	-		-	_			-			-		-	-		-	_	_	-	0	12	12
11:00 PM	0	4	4	_	_	-	_	-	_	-	-	_	_	_	_	_	_	_	_	_	_	0	4	4
Total	-	1,451	1,451	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,451	1,451
Percent	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-

<sup>1.</sup> Mid-week average includes data between Tuesday and Thursday.

### **Vehicle Classification Report Summary**



Location: 02\_N DURBIN ST N-O E 1ST ST

Count Direction: Northbound / Southbound

Date Range: 6/8/2021 to 6/8/2021

Site Code: 02

	FHWA Vehicle Classification													Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	Volume
	Study Total													
Northbound	12	554	271	0	232	3	0	0	6	0	0	0	0	1,078
Percent	1.1%	51.4%	25.1%	0.0%	21.5%	0.3%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	100%
Southbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	12	554	271	0	232	3	0	0	6	0	0	0	0	1,078
Percent	1.1%	51.4%	25.1%	0.0%	21.5%	0.3%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	100%

FHWA Vehicle Classification	
Class 1 - Motorcycles	Class 8 - Four or Fewer Axle Single-Trailer Trucks
Class 2 - Passenger Cars	Class 9 - Five-Axle Single-Trailer Trucks
Class 3 - Other Two-Axle, Four-Tire Single Unit Vehicles	Class 10 - Six or More Axle Single-Trailer Trucks
Class 4 - Buses	Class 11 - Five or fewer Axle Multi-Trailer Trucks
Class 5 - Two-Axle, Six-Tire, Single-Unit Trucks	Class 12 - Six-Axle Multi-Trailer Trucks
Class 6 - Three-Axle Single-Unit Trucks	Class 13 - Seven or More Axle Multi-Trailer Trucks
Class 7 - Four or More Axle Single-Unit Trucks	

Date Range: 6/8/2021 to 6/8/2021

Site Code: 02



#### Tuesday, June 8, 2021 Northbound

						FHWA Ve	hicle Clas	sification						Total
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	Volume
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	2
2:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	2
4:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	2
5:00 AM	0	6	3	0	1	0	0	0	0	0	0	0	0	10
6:00 AM	0	9	6	0	8	0	0	0	0	0	0	0	0	23
7:00 AM	1	44	9	0	22	0	0	0	1	0	0	0	0	77
8:00 AM	2	42	21	0	27	1	0	0	1	0	0	0	0	94
9:00 AM	1	28	22	0	19	1	0	0	0	0	0	0	0	71
10:00 AM	1	36	25	0	14	0	0	0	1	0	0	0	0	77
11:00 AM	1	35	17	0	29	0	0	0	0	0	0	0	0	82
12:00 PM	1	59	26	0	18	0	0	0	1	0	0	0	0	105
1:00 PM	0	62	21	0	13	0	0	0	0	0	0	0	0	96
2:00 PM	3	48	21	0	16	0	0	0	1	0	0	0	0	89
3:00 PM	0	47	24	0	16	0	0	0	1	0	0	0	0	88
4:00 PM	0	57	19	0	15	0	0	0	0	0	0	0	0	91
5:00 PM	0	27	17	0	16	0	0	0	0	0	0	0	0	60
6:00 PM	0	17	12	0	8	1	0	0	0	0	0	0	0	38
7:00 PM	1	9	9	0	1	0	0	0	0	0	0	0	0	20
8:00 PM	0	14	3	0	2	0	0	0	0	0	0	0	0	19
9:00 PM	0	6	10	0	4	0	0	0	0	0	0	0	0	20
10:00 PM	0	6	1	0	0	0	0	0	0	0	0	0	0	7
11:00 PM	0	1	2	0	1	0	0	0	0	0	0	0	0	4
Total	12	554	271	0	232	3	0	0	6	0	0	0	0	1,078
Percent	1.1%	51.4%	25.1%	0.0%	21.5%	0.3%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	

Date Range: 6/8/2021 to 6/8/2021

Site Code: 02



## Total Study Average Northbound

						FHWA Ve	hicle Clas	sification						Total
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	Volume
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	2
2:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	2
4:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	2
5:00 AM	0	6	3	0	1	0	0	0	0	0	0	0	0	10
6:00 AM	0	9	6	0	8	0	0	0	0	0	0	0	0	23
7:00 AM	1	44	9	0	22	0	0	0	1	0	0	0	0	77
8:00 AM	2	42	21	0	27	1	0	0	1	0	0	0	0	94
9:00 AM	1	28	22	0	19	1	0	0	0	0	0	0	0	71
10:00 AM	1	36	25	0	14	0	0	0	1	0	0	0	0	77
11:00 AM	1	35	17	0	29	0	0	0	0	0	0	0	0	82
12:00 PM	1	59	26	0	18	0	0	0	1	0	0	0	0	105
1:00 PM	0	62	21	0	13	0	0	0	0	0	0	0	0	96
2:00 PM	3	48	21	0	16	0	0	0	1	0	0	0	0	89
3:00 PM	0	47	24	0	16	0	0	0	1	0	0	0	0	88
4:00 PM	0	57	19	0	15	0	0	0	0	0	0	0	0	91
5:00 PM	0	27	17	0	16	0	0	0	0	0	0	0	0	60
6:00 PM	0	17	12	0	8	1	0	0	0	0	0	0	0	38
7:00 PM	1	9	9	0	1	0	0	0	0	0	0	0	0	20
8:00 PM	0	14	3	0	2	0	0	0	0	0	0	0	0	19
9:00 PM	0	6	10	0	4	0	0	0	0	0	0	0	0	20
10:00 PM	0	6	1	0	0	0	0	0	0	0	0	0	0	7
11:00 PM	0	1	2	0	1	0	0	0	0	0	0	0	0	4
Total	12	554	271	0	232	3	0	0	6	0	0	0	0	1,078
Percent	1.1%	51.4%	25.1%	0.0%	21.5%	0.3%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	

Date Range: 6/8/2021 to 6/8/2021

Site Code: 02

# DATA SOLUTIONS

## Total Study Average Southbound

						FHWA V	ehicle Clas	sification						Total
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	Volume
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	

Date Range: 6/8/2021 to 6/8/2021

Site Code: 02



## 3-Day (Tuesday - Thursday) Average Northbound

		FHWA Vehicle Classification													
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	Volume	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	2	
2:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
3:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	2	
4:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	2	
5:00 AM	0	6	3	0	1	0	0	0	0	0	0	0	0	10	
6:00 AM	0	9	6	0	8	0	0	0	0	0	0	0	0	23	
7:00 AM	1	44	9	0	22	0	0	0	1	0	0	0	0	77	
8:00 AM	2	42	21	0	27	1	0	0	1	0	0	0	0	94	
9:00 AM	1	28	22	0	19	1	0	0	0	0	0	0	0	71	
10:00 AM	1	36	25	0	14	0	0	0	1	0	0	0	0	77	
11:00 AM	1	35	17	0	29	0	0	0	0	0	0	0	0	82	
12:00 PM	1	59	26	0	18	0	0	0	1	0	0	0	0	105	
1:00 PM	0	62	21	0	13	0	0	0	0	0	0	0	0	96	
2:00 PM	3	48	21	0	16	0	0	0	1	0	0	0	0	89	
3:00 PM	0	47	24	0	16	0	0	0	1	0	0	0	0	88	
4:00 PM	0	57	19	0	15	0	0	0	0	0	0	0	0	91	
5:00 PM	0	27	17	0	16	0	0	0	0	0	0	0	0	60	
6:00 PM	0	17	12	0	8	1	0	0	0	0	0	0	0	38	
7:00 PM	1	9	9	0	1	0	0	0	0	0	0	0	0	20	
8:00 PM	0	14	3	0	2	0	0	0	0	0	0	0	0	19	
9:00 PM	0	6	10	0	4	0	0	0	0	0	0	0	0	20	
10:00 PM	0	6	1	0	0	0	0	0	0	0	0	0	0	7	
11:00 PM	0	1	2	0	1	0	0	0	0	0	0	0	0	4	
Total	12	554	271	0	232	3	0	0	6	0	0	0	0	1,078	
Percent	1.1%	51.4%	25.1%	0.0%	21.5%	0.3%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%		

Date Range: 6/8/2021 to 6/8/2021

Site Code: 02



# 3-Day (Tuesday - Thursday) Average Southbound

						FHWA V	ehicle Clas	sification						Total
Time	1	2	3	4	5	6	7	8	9	10	11	12	13	Volume
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	

### Vehicle Speed Report Summary



Location: 02\_N DURBIN ST N-O E 1ST ST

**Count Direction: Northbound / Southbound** 

Date Range: 6/8/2021 to 6/8/2021

Site Code: 02

								Speed	d Range	(mph)								Total
	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	Volume
								Stud	y Total									
Northbound	15	56	246	440	258	57	6	0	0	0	0	0	0	0	0	0	0	1,078
Percent	1.4%	5.2%	22.8%	40.8%	23.9%	5.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Southbound	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	15	56	246	440	258	57	6	0	0	0	0	0	0	0	0	0	0	1,078
Percent	1.4%	5.2%	22.8%	40.8%	23.9%	5.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Total Study Percentile Spee	ed Summa	ıry	Total Study Spee	d Statistics	
Northbound			Northbound		
50th Percentile (Median)	22.6	mph	Mean (Average) Speed	22.5	mph
85th Percentile	27.4	mph	10 mph Pace	18.1 - 28.1	mph
95th Percentile	30.5	mph	Percent in Pace	70.5	%
Southbound			Southbound		
50th Percentile (Median)	0.0	mph	Mean (Average) Speed	0.0	mph
85th Percentile	0.0	mph	10 mph Pace	.0 - 10.0	mph
95th Percentile	0.0	mph	Percent in Pace	0.0	%

Date Range: 6/8/2021 to 6/8/2021

Site Code: 02



### Tuesday, June 8, 2021 Northbound

								Spee	d Range	(mph)								Total
Time	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	Volume
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 AM	0	1	2	2	5	0	0	0	0	0	0	0	0	0	0	0	0	10
6:00 AM	0	1	5	9	5	3	0	0	0	0	0	0	0	0	0	0	0	23
7:00 AM	0	3	8	39	18	9	0	0	0	0	0	0	0	0	0	0	0	77
8:00 AM	0	5	15	38	28	5	3	0	0	0	0	0	0	0	0	0	0	94
9:00 AM	1	5	12	30	20	3	0	0	0	0	0	0	0	0	0	0	0	71
10:00 AM	2	2	16	36	18	3	0	0	0	0	0	0	0	0	0	0	0	77
11:00 AM	0	2	18	39	20	3	0	0	0	0	0	0	0	0	0	0	0	82
12:00 PM	1	9	28	42	23	2	0	0	0	0	0	0	0	0	0	0	0	105
1:00 PM	1	7	20	39	23	6	0	0	0	0	0	0	0	0	0	0	0	96
2:00 PM	3	8	27	29	17	4	1	0	0	0	0	0	0	0	0	0	0	89
3:00 PM	0	2	18	40	22	5	1	0	0	0	0	0	0	0	0	0	0	88
4:00 PM	3	3	21	40	18	6	0	0	0	0	0	0	0	0	0	0	0	91
5:00 PM	2	3	13	20	18	3	1	0	0	0	0	0	0	0	0	0	0	60
6:00 PM	2	2	13	8	11	2	0	0	0	0	0	0	0	0	0	0	0	38
7:00 PM	0	1	4	9	5	1	0	0	0	0	0	0	0	0	0	0	0	20
8:00 PM	0	1	8	9	1	0	0	0	0	0	0	0	0	0	0	0	0	19
9:00 PM	0	0	12	5	3	0	0	0	0	0	0	0	0	0	0	0	0	20
10:00 PM	0	0	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	7
11:00 PM	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	4
Total	15	56	246	440	258	57	6	0	0	0	0	0	0	0	0	0	0	1,078
Percent	1.4%	5.2%	22.8%	40.8%	23.9%	5.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Daily Percentile Speed	Summary		Speed Stat	istics	
50th Percentile (Median)	22.6	mph	Mean (Average) Speed	22.5	mph
85th Percentile	27.4	mph	10 mph Pace	18.1 - 28.1	mph
95th Percentile	30.5	mph	Percent in Pace	70.5	%

Date Range: 6/8/2021 to 6/8/2021

Site Code: 02



### **Total Study Average**

### Northbound

								Spee	d Range	(mph)								Total
Time	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 85	85 +	Volume
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 AM	0	1	2	2	5	0	0	0	0	0	0	0	0	0	0	0	0	10
6:00 AM	0	1	5	9	5	3	0	0	0	0	0	0	0	0	0	0	0	23
7:00 AM	0	3	8	39	18	9	0	0	0	0	0	0	0	0	0	0	0	77
8:00 AM	0	5	15	38	28	5	3	0	0	0	0	0	0	0	0	0	0	94
9:00 AM	1	5	12	30	20	3	0	0	0	0	0	0	0	0	0	0	0	71
10:00 AM	2	2	16	36	18	3	0	0	0	0	0	0	0	0	0	0	0	77
11:00 AM	0	2	18	39	20	3	0	0	0	0	0	0	0	0	0	0	0	82
12:00 PM	1	9	28	42	23	2	0	0	0	0	0	0	0	0	0	0	0	105
1:00 PM	1	7	20	39	23	6	0	0	0	0	0	0	0	0	0	0	0	96
2:00 PM	3	8	27	29	17	4	1	0	0	0	0	0	0	0	0	0	0	89
3:00 PM	0	2	18	40	22	5	1	0	0	0	0	0	0	0	0	0	0	88
4:00 PM	3	3	21	40	18	6	0	0	0	0	0	0	0	0	0	0	0	91
5:00 PM	2	3	13	20	18	3	1	0	0	0	0	0	0	0	0	0	0	60
6:00 PM	2	2	13	8	11	2	0	0	0	0	0	0	0	0	0	0	0	38
7:00 PM	0	1	4	9	5	1	0	0	0	0	0	0	0	0	0	0	0	20
8:00 PM	0	1	8	9	1	0	0	0	0	0	0	0	0	0	0	0	0	19
9:00 PM	0	0	12	5	3	0	0	0	0	0	0	0	0	0	0	0	0	20
10:00 PM	0	0	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	7
11:00 PM	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	4
Total	15	56	246	440	258	57	6	0	0	0	0	0	0	0	0	0	0	1,078
Percent	1.4%	5.2%	22.8%	40.8%	23.9%	5.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Note: Average only condsidered on days with 24-hours of data.

Total Study Percentile Spe	ed Summa	ıry	Total Study Spee	d Statistics	
50th Percentile (Median)	22.6	mph	Mean (Average) Speed	22.5	mph
85th Percentile	27.4	mph	10 mph Pace	18.1 - 28.1	mph
95th Percentile	30.5	mph	Percent in Pace	70.5	%

Date Range: 6/8/2021 to 6/8/2021

Site Code: 02



## Total Study Average Southbound

### Speed Range (mph) Total 20 - 25 25 - 30 70 - 75 75 - 80 Time 0 - 10 10 - 15 15 - 20 30 - 35 35 - 40 40 - 45 45 - 50 50 - 55 55 - 60 60 - 65 65 - 70 80 - 85 85 + Volume 12:00 AM 1:00 AM 2:00 AM 3:00 AM 4:00 AM 5:00 AM 6:00 AM 7:00 AM 8:00 AM 9:00 AM 10:00 AM 11:00 AM 12:00 PM 1:00 PM 2:00 PM 3:00 PM 4:00 PM 5:00 PM 6:00 PM 7:00 PM 8:00 PM 9:00 PM 10:00 PM 11:00 PM Total Percent

Note: Average only condsidered on days with 24-hours of data.

Total Study Percentile Spee	ed Summa	ry	Total Study Speed	Statistics	
50th Percentile (Median)	0.0	mph	Mean (Average) Speed	0.0	mph
85th Percentile	0.0	mph	10 mph Pace	.0 - 10.0	mph
95th Percentile	0.0	mph	Percent in Pace	0.0	%



 Location:
 02\_N DURBIN ST N-O E 1ST ST

 Date Range:
 6/8/2021 - 6/14/2021

 Site Code:
 02

	Т	uesda	y	W	/ednesd	lay		Thursda	ıy		Friday			Saturda	y		Sunday	/		Monday	/			
	6	/8/202	1		6/9/202	1	(	6/10/202	:1		6/11/202	:1		5/12/202	21	6	/13/202	:1	(	6/14/202	:1	Mid-W	leek A	verage
Time	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
1:00 AM	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2
2:00 AM	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1
3:00 AM	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2
4:00 AM	2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0	2
5:00 AM	10	0	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	0	10
6:00 AM	23	0	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	0	23
7:00 AM	77	0	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	0	77
8:00 AM	94	0	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94	0	94
9:00 AM	71	0	71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	0	71
10:00 AM	77	0	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	0	77
11:00 AM	82	0	82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	82	0	82
12:00 PM	105	0	105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	105	0	105
1:00 PM	96	0	96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	0	96
2:00 PM	89	0	89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	89	0	89
3:00 PM	88	0	88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88	0	88
4:00 PM	91	0	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	91	0	91
5:00 PM	60	0	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	0	60
6:00 PM	38	0	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	0	38
7:00 PM	20	0	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	0	20
8:00 PM	19	0	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	0	19
9:00 PM	20	0	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	0	20
10:00 PM	7	0	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	0	7
11:00 PM	4	0	4	-	-	-	-	_	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0	4
Total Percent	1,078 100%	-	1,078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,078 100%	-	1,078

<sup>1.</sup> Mid-week average includes data between Tuesday and Thursday.

## **Traffic Capacity Analysis Worksheets**

- 1. Existing AM Conditions
- 2. Existing PM Conditions
- 3. Proposed AM Conditions Alternative 3-6
- 4. Proposed PM Conditions Alternative 3-6
- 5. Proposed AM Conditions Alternative 3-7
- 6. Proposed PM Conditions Alternative 3-7

# **Existing AM Conditions**

	-	*	1	<b>←</b>	1	1
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				<b>†</b>	ሻሻ	7
Traffic Volume (veh/h)	0	0	0	45	55	15
Future Volume (Veh/h)	0	0	0	45	55	15
Sign Control	Stop			Yield	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	0	0	58	71	19
Pedestrians	-					
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	142	0	142	142	0	
vC1, stage 1 conf vol	172	<u> </u>	174	174	<u> </u>	
vC2, stage 2 conf vol						
vCu, unblocked vol	142	0	142	142	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)	0.0	٧.٢	7.1	3.0	т. 1	
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	100	100	100	92	96	
cM capacity (veh/h)	716	1085	800	716	1623	
					.020	
Direction, Lane #	WB 1	NB 1	NB 2	NB 3		
Volume Total	58	36	36	19		
Volume Left	0	36	36	0		
Volume Right	0	0	0	19		
cSH	716	1623	1623	1700		
Volume to Capacity	0.08	0.04	0.04	0.01		
Queue Length 95th (ft)	7	3	3	0		
Control Delay (s)	10.5	7.3	7.3	0.0		
Lane LOS	В	Α	Α			
Approach Delay (s)	10.5	5.8				
Approach LOS	В					
Intersection Summary						
Average Delay			7.6			
Intersection Capacity Utiliz	zation		13.3%	IC	U Level c	of Service
Analysis Period (min)			15			

	•	<b>→</b>	•	1	<b>—</b>	•	4	†	~	-	Ţ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		7>		7	<b>^</b>						47>	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	50	20	25	35	0	0	0	0	5	35	5
Future Volume (vph)	0	50	20	25	35	0	0	0	0	5	35	5
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	0	66	26	33	46	0	0	0	0	7	46	7
Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2							
Volume Total (vph)	92	33	46	30	30							
Volume Left (vph)	0	33	0	7	0							
Volume Right (vph)	26	0	0	0	7							
Hadj (s)	-0.14	0.53	0.03	0.15	-0.13							
Departure Headway (s)	4.6	5.3	4.8	5.1	4.8							
Degree Utilization, x	0.12	0.05	0.06	0.04	0.04							
Capacity (veh/h)	767	664	737	682	720							
Control Delay (s)	8.2	7.3	6.9	7.1	6.8							
Approach Delay (s)	8.2	7.1		6.9								
Approach LOS	Α	Α		Α								
Intersection Summary												
Delay			7.5									
Level of Service			Α									
Intersection Capacity Utiliza	ition		20.6%	IC	CU Level	of Service			Α			
Analysis Period (min)			15									

	۶	<b>→</b>	•	•	<b>←</b>	•	1	<b>†</b>	~	/	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<b>*</b> 1>		T	<b>^</b>						44	7
Traffic Volume (vph)	0	520	40	25	485	0	0	0	0	10	15	40
Future Volume (vph)	0	520	40	25	485	0	0	0	0	10	15	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2		4.2	4.2						4.0	4.0
Lane Util. Factor		0.95		1.00	0.95						0.95	1.00
Frpb, ped/bikes		1.00		1.00	1.00						1.00	0.98
Flpb, ped/bikes		1.00		1.00	1.00						1.00	1.00
Frt		0.99		1.00	1.00						1.00	0.85
FIt Protected		1.00		0.95	1.00						0.98	1.00
Satd. Flow (prot)		3496		1764	3539						3469	1549
FIt Permitted		1.00		0.38	1.00						0.98	1.00
Satd. Flow (perm)	0.70	3496	0.70	709	3539	0.70	0.70	0.70	0.70	0.70	3469	1549
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	0	658	51	32	614	0	0	0	0	13	19	51
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	0	46
Lane Group Flow (vph)	0	704	0 7	32 7	614	0	0	0	0	0	32	5
Confl. Peds. (#/hr)		NIA			NIA.		8				NIA.	8
Turn Type		NA		Perm	NA					Perm	NA	Perm
Protected Phases		2		•	6					4	4	4
Permitted Phases		E7 0		6	E7 0					4	6.0	4
Actuated Green, G (s)		57.0 57.0		57.0 57.0	57.0 57.0						6.8 6.8	6.8 6.8
Effective Green, g (s) Actuated g/C Ratio		0.79		0.79	0.79						0.09	0.09
Clearance Time (s)		4.2		4.2	4.2						4.0	4.0
Vehicle Extension (s)		5.0		5.0	5.0						5.0	5.0
Lane Grp Cap (vph)		2767		561	2801						327	146
v/s Ratio Prot		c0.20		301	0.17						321	140
v/s Ratio Perm		60.20		0.05	0.17						0.01	0.00
v/c Ratio		0.25		0.05	0.22						0.01	0.00
Uniform Delay, d1		2.0		1.6	1.9						29.8	29.6
Progression Factor		1.00		0.86	0.81						1.00	1.00
Incremental Delay, d2		0.2		0.00	0.01						0.3	0.2
Delay (s)		2.2		1.6	1.7						30.1	29.8
Level of Service		Α.Δ		Α	A						C	23.0 C
Approach Delay (s)		2.2		,,	1.7			0.0			29.9	
Approach LOS		A			Α			A			C	
Intersection Summary												
HCM 2000 Control Delay			3.6	Н	CM 2000	Level of S	Service		Α			
HCM 2000 Volume to Capacity	ratio		0.24									
Actuated Cycle Length (s)			72.0	Sı	um of lost	time (s)			8.2			
Intersection Capacity Utilization			35.2%			of Service			Α			
Analysis Period (min)			15									
c Critical Lane Group												

	۶	<b>→</b>	*	1	<b>←</b>	•	1	<b>†</b>	1	-	<b>↓</b>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>^</b>			<b>*</b> 1>			4747				
Traffic Volume (vph)	40	450	0	0	475	25	65	60	40	0	0	0
Future Volume (vph)	40	450	0	0	475	25	65	60	40	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2			4.2			4.0				
Lane Util. Factor	1.00	0.95			0.95			0.91				
Frpb, ped/bikes	1.00	1.00			1.00			0.99				
Flpb, ped/bikes	1.00	1.00			1.00			1.00				
Frt	1.00	1.00			0.99			0.96				
Flt Protected	0.95	1.00			1.00			0.98				
Satd. Flow (prot)	1770	3539			3510			4778				
Flt Permitted	0.43	1.00			1.00			0.98				
Satd. Flow (perm)	807	3539			3510			4778				
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	47	523	0	0	552	29	76	70	47	0	0	0.00
RTOR Reduction (vph)	0	0	0	0	4	0	0	40	0	0	0	0
Lane Group Flow (vph)	47	523	0	0	577	0	0	153	0	0	0	0
Confl. Peds. (#/hr)		020	2	2	0			.00	3	3		J
Confl. Bikes (#/hr)			5	_		5			5			
Turn Type	Perm	NA	-		NA	-	Perm	NA				
Protected Phases	1 01111	2			6		1 01111	8				
Permitted Phases	2	_					8					
Actuated Green, G (s)	53.1	53.1			53.1			10.7				
Effective Green, g (s)	53.1	53.1			53.1			10.7				
Actuated g/C Ratio	0.74	0.74			0.74			0.15				
Clearance Time (s)	4.2	4.2			4.2			4.0				
Vehicle Extension (s)	5.0	5.0			5.0			5.0				
Lane Grp Cap (vph)	595	2610			2588			710				
v/s Ratio Prot	000	0.15			c0.16			7.10				
v/s Ratio Perm	0.06	0.10			00.10			0.03				
v/c Ratio	0.08	0.20			0.22			0.22				
Uniform Delay, d1	2.6	2.9			3.0			27.0				
Progression Factor	0.18	0.33			1.00			1.00				
Incremental Delay, d2	0.3	0.2			0.2			0.3				
Delay (s)	0.7	1.1			3.2			27.3				
Level of Service	A	Α			Α			C C				
Approach Delay (s)	, ,	1.1			3.2			27.3			0.0	
Approach LOS		Α			Α			C			A	
Intersection Summary												
HCM 2000 Control Delay			5.8	Ц	CM 2000	Level of	Service		A			
HCM 2000 Volume to Capa	acity ratio		0.22	- 11	CIVI ZUUU	LEVEL OI	JGI VICE					
Actuated Cycle Length (s)	ionly ratio		72.0	9	um of lost	time (c)			8.2			
Intersection Capacity Utiliza	ation		35.2%		CU Level				0.2 A			
Analysis Period (min)	atiOH		15	IC	O LEVEL	JI GEI VICE			A			
Analysis Fellou (IIIIII)			10									

c Critical Lane Group

	۶	<b>→</b>	*	•	+	4	1	<b>†</b>	<b>/</b>	1	<b>†</b>	✓
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		7			स						472	
Traffic Volume (vph)	0	155	10	45	200	0	0	0	0	20	30	10
Future Volume (vph)	0	155	10	45	200	0	0	0	0	20	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0						5.0	
Lane Util. Factor		1.00			1.00						0.95	
Frpb, ped/bikes		1.00			1.00						1.00	
Flpb, ped/bikes		1.00			1.00						0.99	
Frt		0.99			1.00						0.98	
Flt Protected		1.00			0.99						0.98	
Satd. Flow (prot)		1844			1840						3358	
Flt Permitted		1.00			0.92						0.98	
Satd. Flow (perm)		1844			1708						3358	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	0	189	12	55	244	0	0	0	0	24	37	12
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	198	0	0	299	0	0	0	0	0	63	0
Confl. Peds. (#/hr)	5		25	25		5				13		7
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		2		•	2						4	
Permitted Phases		00.0		2	00.0					4	0.0	
Actuated Green, G (s)		32.2			32.2						6.8	
Effective Green, g (s)		32.2			32.2						6.8	
Actuated g/C Ratio		0.64			0.64						0.14	
Clearance Time (s)		6.0 5.0			6.0 5.0						5.0 5.0	
Vehicle Extension (s)												
Lane Grp Cap (vph)		1187			1099						456	
v/s Ratio Prot		0.11			-0.10						0.00	
v/s Ratio Perm		0.17			c0.18 0.27						0.02 0.14	
v/c Ratio Uniform Delay, d1		3.6			3.8						19.0	
Progression Factor		1.00			0.43						1.00	
Incremental Delay, d2		0.3			0.43						0.3	
Delay (s)		3.9			2.2						19.3	
Level of Service		3.9 A			Z.Z A						19.5 B	
Approach Delay (s)		3.9			2.2			0.0			19.3	
Approach LOS		Α			Α			A			В	
Intersection Summary												
HCM 2000 Control Delay			5.0	H	CM 2000	Level of S	Service		Α			
HCM 2000 Volume to Capacity	/ ratio		0.25									
Actuated Cycle Length (s)			50.0		um of lost				11.0			
Intersection Capacity Utilization	n		50.1%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									
c Critical Lane Group												

	۶	<b>→</b>	*	•	+	•	1	1	~	1	<b></b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		र्स			<b>↑</b>	7		414				
Traffic Volume (vph)	10	155	0	0	225	45	20	140	105	0	0	0
Future Volume (vph)	10	155	0	0	225	45	20	140	105	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0		6.0				
Lane Util. Factor		1.00			1.00	1.00		0.91				
Frpb, ped/bikes		1.00			1.00	0.98		0.99				
Flpb, ped/bikes		1.00			1.00	1.00		1.00				
Frt		1.00			1.00	0.85		0.94				
Flt Protected		1.00			1.00	1.00		1.00				
Satd. Flow (prot)		1857			1863	1551		4690				
FIt Permitted		0.98			1.00	1.00		1.00				
Satd. Flow (perm)		1824			1863	1551		4690				
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	11	174	0	0	253	51	22	157	118	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	23	0	93	0	0	0	0
Lane Group Flow (vph)	0	185	0	0	253	28	0	204	0	0	0	0
Confl. Peds. (#/hr)	10		11	11		10	14		11	11		14
Turn Type	Perm	NA			NA	Perm	Perm	NA				
Protected Phases	_	2			2	_		4				
Permitted Phases	2					2	4					
Actuated Green, G (s)		27.4			27.4	27.4		10.6				
Effective Green, g (s)		27.4			27.4	27.4		10.6				
Actuated g/C Ratio		0.55			0.55	0.55		0.21				
Clearance Time (s)		6.0			6.0	6.0		6.0				
Vehicle Extension (s)		5.0			5.0	5.0		5.0				
Lane Grp Cap (vph)		999			1020	849		994				
v/s Ratio Prot					c0.14							
v/s Ratio Perm		0.10				0.02		0.04				
v/c Ratio		0.19			0.25	0.03		0.21				
Uniform Delay, d1		5.7			5.9	5.2		16.2				
Progression Factor		0.68			1.00	1.00		1.00				
Incremental Delay, d2		0.4			0.6	0.1		0.2				
Delay (s)		4.3			6.5	5.3		16.4				
Level of Service		A			A	Α		В			0.0	
Approach Delay (s) Approach LOS		4.3 A			6.3 A			16.4 B			0.0 A	
· ·		, ,			, ,						, , , , , , , , , , , , , , , , , , ,	
Intersection Summary			0.6	11	CM 2000	l aval af (			^			
HCM 2000 Control Delay			9.6	П	CM 2000	Level of 3	Service		Α			
HCM 2000 Volume to Capacit	y Tallo		0.24	C.	ım of loca	time (a)			12.0			
Actuated Cycle Length (s) Intersection Capacity Utilization	'n		50.0		um of lost				12.0 A			
	Ш		51.8%	IC	CU Level o	o Service			A			
Analysis Period (min) c Critical Lane Group			15									
5 Ontious Earlo Group												

	۶	<b>→</b>	•	•	<b>—</b>	•	1	<b>†</b>	~	1	<b>↓</b>	✓
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<b>↑</b>	7				1		7	7	<b>*</b> 1>	
Traffic Volume (veh/h)	0	95	5	0	0	0	5	0	5	30	5	35
Future Volume (Veh/h)	0	95	5	0	0	0	5	0	5	30	5	35
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	0	114	6	0	0	0	6	0	6	36	6	42
Pedestrians		1			1							
Lane Width (ft)		12.0			0.0							
Walking Speed (ft/s)		3.5			3.5							
Percent Blockage		0			0							
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											309	
pX, platoon unblocked												
vC, conflicting volume	112	119	25	148	134	1	49			7		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	112	119	25	148	134	1	49			7		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	85	99	100	100	100	100			98		
cM capacity (veh/h)	836	750	1044	693	735	1083	1555			1612		
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3						
Volume Total	120	6	6	36	4	44						
Volume Left	0	6	0	36	0	0						
Volume Right	6	0	6	0	0	42						
cSH	789	1555	1700	1612	1700	1700						
Volume to Capacity	0.15	0.00	0.00	0.02	0.00	0.03						
Queue Length 95th (ft)	13	0	0	2	0	0						
Control Delay (s)	10.6	7.3	0.0	7.3	0.0	0.0						
Lane LOS	В	Α		Α								
Approach Delay (s)	10.6	3.7		3.1								
Approach LOS	В											
Intersection Summary												
Average Delay			7.3									
Intersection Capacity Utilization	on		22.0%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

	٠	*	1	<b>†</b>	<b>↓</b>	4
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	77	7		<b>^</b>		
Traffic Volume (veh/h)	95	35	0	170	0	0
Future Volume (Veh/h)	95	35	0	170	0	0
Sign Control	Free			Yield	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	110	41	0	198	0	0
Pedestrians	15			3		
Lane Width (ft)	12.0			12.0		
Walking Speed (ft/s)	3.5			3.5		
Percent Blockage	1			0		
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		238	223	223	15
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		238	223	223	15
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	93		100	68	100	100
cM capacity (veh/h)	1623		666	628	628	1049
Direction, Lane #	EB 1	EB 2	EB 3	NB 1		
Volume Total	55	55	41	198		
Volume Left	55	55	0	0		
Volume Right	0	0	41	0		
cSH	1623	1623	1700	628		
Volume to Capacity	0.07	0.07	0.02	0.32		
Queue Length 95th (ft)	5	5	0	34		
Control Delay (s)	7.4	7.4	0.0	13.3		
Lane LOS	Α	Α		В		
Approach Delay (s)	5.4			13.3		
Approach LOS				В		
Intersection Summary						
Average Delay			9.9			
Intersection Capacity Utiliza	ation		19.9%	IC		of Service
Analysis Period (min)	atiOII		15.576	iC	O LOVEI C	, OCIVICE
Alialysis Fellou (IIIIII)			10			

# **Existing PM Conditions**

	-	•	1	<b>←</b>	4	-
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				<b>†</b>	77	7
Traffic Volume (veh/h)	0	0	0	45	45	30
Future Volume (Veh/h)	0	0	0	45	45	30
Sign Control	Stop			Yield	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	0	0	0	54	54	36
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	108	0	108	108	0	
vC1, stage 1 conf vol	100		100			
vC2, stage 2 conf vol						
vCu, unblocked vol	108	0	108	108	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)	0.0			0.0		
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	100	100	100	93	97	
cM capacity (veh/h)	756	1085	849	756	1623	
Direction, Lane #	WB 1	NB 1	NB 2	NB 3		
Volume Total	54	27	27	36		
Volume Left	0	27	27	0		
	0	0	0	36		
Volume Right cSH	756	1623	1623	1700		
	0.07	0.03	0.03	0.02		
Volume to Capacity						
Queue Length 95th (ft)	6	3	3	0		
Control Delay (s)	10.1	7.3	7.3	0.0		
Lane LOS	B	A	Α			
Approach Delay (s)	10.1	4.4				
Approach LOS	В					
Intersection Summary						
Average Delay			6.5			
Intersection Capacity Utiliz	zation		13.3%	IC	U Level c	f Service
Analysis Period (min)			15	_		
Joio : O. lou (Illin)						

	٠	<b>→</b>	*	•	-	•	1	†	~	/	Ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ĵ.		7	<b>†</b>						473	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	60	45	50	40	0	0	0	0	10	95	5
Future Volume (vph)	0	60	45	50	40	0	0	0	0	10	95	5
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	0	76	57	63	51	0	0	0	0	13	120	6
Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2							
Volume Total (vph)	133	63	51	73	66							
Volume Left (vph)	0	63	0	13	0							
Volume Right (vph)	57	0	0	0	6							
Hadj (s)	-0.22	0.53	0.03	0.12	-0.03							
Departure Headway (s)	4.8	5.5	5.0	5.2	5.1							
Degree Utilization, x	0.18	0.10	0.07	0.11	0.09							
Capacity (veh/h)	731	627	689	655	673							
Control Delay (s)	8.8	7.9	7.2	7.7	7.4							
Approach Delay (s)	8.8	7.6		7.5								
Approach LOS	Α	Α		Α								
Intersection Summary												
Delay			8.0									
Level of Service			Α									
Intersection Capacity Utiliza	tion		23.8%	IC	CU Level o	of Service			Α			
Analysis Period (min)			15									

	۶	<b>→</b>	*	•	+	4	1	<b>†</b>	~	<b>/</b>	Ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<b>*</b> 1>		7	<b>^</b>						414	7
Traffic Volume (vph)	0	415	30	30	550	0	0	0	0	55	95	90
Future Volume (vph)	0	415	30	30	550	0	0	0	0	55	95	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2		4.2	4.2						4.0	4.0
Lane Util. Factor		0.95		1.00	0.95						0.95	1.00
Frpb, ped/bikes		1.00		1.00	1.00						1.00	0.97
Flpb, ped/bikes		1.00		1.00	1.00						1.00	1.00
Frt		0.99		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						0.98	1.00
Satd. Flow (prot)		3499		1765	3539						3470	1541
FIt Permitted		1.00		0.46	1.00						0.98	1.00
Satd. Flow (perm)		3499		856	3539						3470	1541
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	483	35	35	640	0	0	0	0	64	110	105
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	0	88
Lane Group Flow (vph)	0	512	0	35	640	0	0	0	0	0	174	17
Confl. Peds. (#/hr)			4	4			12		3	3		12
Turn Type		NA		Perm	NA					Perm	NA	Perm
Protected Phases		2		_	6						4	
Permitted Phases				6						4		4
Actuated Green, G (s)		52.0		52.0	52.0						11.8	11.8
Effective Green, g (s)		52.0		52.0	52.0						11.8	11.8
Actuated g/C Ratio		0.72		0.72	0.72						0.16	0.16
Clearance Time (s)		4.2		4.2	4.2						4.0	4.0
Vehicle Extension (s)		5.0		5.0	5.0						5.0	5.0
Lane Grp Cap (vph)		2527		618	2555						568	252
v/s Ratio Prot		0.15			c0.18							
v/s Ratio Perm				0.04							0.05	0.01
v/c Ratio		0.20		0.06	0.25						0.31	0.07
Uniform Delay, d1		3.3		2.9	3.4						26.5	25.5
Progression Factor		1.00		0.69	0.63						1.00	1.00
Incremental Delay, d2		0.2		0.2	0.2						0.6	0.2
Delay (s)		3.4		2.2	2.4						27.1	25.7
Level of Service		A		Α	A			0.0			С	С
Approach Delay (s)		3.4			2.3			0.0			26.6	
Approach LOS		Α			Α			Α			С	
Intersection Summary												
HCM 2000 Control Delay			7.3	H	CM 2000	Level of S	Service		Α			
HCM 2000 Volume to Capacit	y ratio		0.26									
Actuated Cycle Length (s)			72.0		um of lost				8.2			
Intersection Capacity Utilization	on		35.3%	IC	CU Level of	of Service			Α			
Analysis Period (min)			15									
c Critical Lane Group												

	۶	<b>→</b>	*	•	<b>←</b>	•	1	<b>†</b>	~	1	<b>†</b>	✓
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	*			<b>*</b> \$			474				
Traffic Volume (vph)	20	450	0	0	505	20	75	35	45	0	0	0
Future Volume (vph)	20	450	0	0	505	20	75	35	45	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2			4.2			4.0				
Lane Util. Factor	1.00	0.95			0.95			0.91				
Frpb, ped/bikes	1.00	1.00			1.00			1.00				
Flpb, ped/bikes	1.00	1.00			1.00			1.00				
Frt	1.00	1.00			0.99			0.96				
Flt Protected	0.95	1.00			1.00			0.98				
Satd. Flow (prot)	1770	3539			3519			4743 0.98				
Flt Permitted	0.42 778	1.00 3539			1.00 3519			4743				
Satd. Flow (perm)			0.05	0.05		0.05	0.05		0.05	0.05	0.05	0.05
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph) RTOR Reduction (vph)	24 0	529	0	0	594 3	24	88 0	41 45	53 0	0	0	0
( 1 )	24	0 529	0	0	615	0	0	137	0	0	0	0
Lane Group Flow (vph) Confl. Peds. (#/hr)	24	529	U	U	013	U	2	137	U	U	U	2
	Perm	NA			NA		Perm	NA				
Turn Type Protected Phases	reiiii	2			6		reiiii	NA 8				
Permitted Phases	2	2			U		8	O				
Actuated Green, G (s)	53.3	53.3			53.3		U	10.5				
Effective Green, g (s)	53.3	53.3			53.3			10.5				
Actuated g/C Ratio	0.74	0.74			0.74			0.15				
Clearance Time (s)	4.2	4.2			4.2			4.0				
Vehicle Extension (s)	5.0	5.0			5.0			5.0				
Lane Grp Cap (vph)	575	2619			2605			691				
v/s Ratio Prot	0.0	0.15			c0.17			001				
v/s Ratio Perm	0.03	00			••••			0.03				
v/c Ratio	0.04	0.20			0.24			0.20				
Uniform Delay, d1	2.5	2.9			2.9			27.0				
Progression Factor	0.78	0.75			1.00			1.00				
Incremental Delay, d2	0.1	0.2			0.2			0.3				
Delay (s)	2.1	2.3			3.2			27.3				
Level of Service	Α	Α			Α			С				
Approach Delay (s)		2.3			3.2			27.3			0.0	
Approach LOS		Α			Α			С			Α	
Intersection Summary												
HCM 2000 Control Delay			6.1	H	CM 2000	Level of	Service		Α			
HCM 2000 Volume to Capac	city ratio		0.23									
Actuated Cycle Length (s)			72.0		um of lost				8.2			
Intersection Capacity Utilizat	ion		35.3%	IC	U Level o	of Service			А			
Analysis Period (min) c Critical Lane Group			15									
Contical Lane Group												

	۶	<b>→</b>	*	•	<b>←</b>	•	1	†	~	/	Ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<b>1</b> >			4						474	
Traffic Volume (vph)	0	315	30	55	285	0	0	0	0	50	95	30
Future Volume (vph)	0	315	30	55	285	0	0	0	0	50	95	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0						5.0	
Lane Util. Factor		1.00			1.00						0.95	
Frpb, ped/bikes		0.99			1.00						0.98	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.99			1.00						0.97	
Flt Protected		1.00			0.99						0.99	
Satd. Flow (prot)		1830			1838						3292	
Flt Permitted		1.00			0.88						0.99	
Satd. Flow (perm)		1830			1638						3292	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	358	34	62	324	0	0	0	0	57	108	34
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	20	0
Lane Group Flow (vph)	0	389	0	0	387	0	0	0	0	0	179	0
Confl. Peds. (#/hr)	17		32	32		17				17		29
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		2			2					•	4	
Permitted Phases		747		2	747					4	440	
Actuated Green, G (s)		74.7			74.7						14.3	
Effective Green, g (s)		74.7			74.7						14.3	
Actuated g/C Ratio		0.75			0.75						0.14	
Clearance Time (s)		6.0 5.0			6.0 5.0						5.0 5.0	
Vehicle Extension (s)												
Lane Grp Cap (vph)		1367			1223						470	
v/s Ratio Prot		0.21			c0.24						0.05	
v/s Ratio Perm		0.28			0.32						0.05	
v/c Ratio Uniform Delay, d1		4.1			4.2						38.8	
Progression Factor		1.00			0.57						1.00	
Incremental Delay, d2		0.5			0.57						1.1	
Delay (s) Level of Service		4.6 A			3.1 A						39.9 D	
Approach Delay (s)		4.6			3.1			0.0			39.9	
Approach LOS		4.0 A			A			Α			D D	
Intersection Summary												
HCM 2000 Control Delay			11.2	Н	CM 2000	Level of S	Service		В			
HCM 2000 Volume to Capacity	ratio		0.33		J 2000	_5.5.5.6.	31 1100					
Actuated Cycle Length (s)	. 4.15		100.0	Sı	um of lost	time (s)			11.0			
Intersection Capacity Utilization			61.9%			of Service			В			
Analysis Period (min)			15			22730						
c Critical Lane Group												

Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SB1	SBR
Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SB1	
Lane Configurations 4 † † 4††	
Traffic Volume (vph) 30 350 0 0 310 35 25 90 130 0 0	0
Future Volume (vph) 30 350 0 0 310 35 25 90 130 0 0	0
Ideal Flow (vphpl) 1900 1900 1900 1900 1900 1900 1900 190	1900
Total Lost time (s) 6.0 6.0 6.0	
Lane Util. Factor 1.00 1.00 0.91	
Frpb, ped/bikes 1.00 1.00 0.97 0.98	
Flpb, ped/bikes 1.00 1.00 1.00	
Frt 1.00 1.00 0.85 0.92	
Flt Protected 1.00 1.00 0.99	
Satd. Flow (prot) 1854 1863 1531 4530	
Flt Permitted 0.95 1.00 1.00 0.99	
Satd. Flow (perm) 1767 1863 1531 4530	
Peak-hour factor, PHF 0.81 0.81 0.81 0.81 0.81 0.81 0.81 0.81	0.81
Adj. Flow (vph) 37 432 0 0 383 43 31 111 160 0 0	0
RTOR Reduction (vph) 0 0 0 0 10 0 140 0 0	0
Lane Group Flow (vph) 0 469 0 0 383 33 0 162 0 0 0	0
Confl. Peds. (#/hr) 12 10 10 12 15 8	
Turn Type Perm NA NA Perm Perm NA	
Protected Phases 2 2 4	
Permitted Phases 2 2 4	
Actuated Green, G (s) 75.7 75.7 12.3	
Effective Green, g (s) 75.7 75.7 12.3	
Actuated g/C Ratio 0.76 0.76 0.12	
Clearance Time (s) 6.0 6.0 6.0	
Vehicle Extension (s)         5.0         5.0         5.0	
Lane Grp Cap (vph) 1337 1410 1158 557	
v/s Ratio Prot 0.21	
v/s Ratio Perm	
v/c Ratio 0.35 0.27 0.03 0.29	
Uniform Delay, d1 4.0 3.7 3.0 39.9	
Progression Factor 0.72 1.00 1.00 1.14	
Incremental Delay, d2 0.7 0.5 0.0 0.6	
Delay (s) 3.6 4.2 3.1 45.9  Level of Service A A A D	
Approach Delay (s)         3.6         4.1         45.9         0.0           Approach LOS         A         A         D         A	
<u> </u>	
Intersection Summary HCM 2000 Control Delay 14.4 HCM 2000 Level of Service B	
HCM 2000 Volume to Capacity ratio  Actuated Cycle Length (s)  0.34  Sum of lost time (s)  12.0	
Intersection Capacity Utilization 59.2% ICU Level of Service B	
Analysis Period (min) 15	
c Critical Lane Group	

	۶	<b>→</b>	*	•	<b>←</b>	•	1	<b>†</b>	~	1	<b></b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<b>†</b>	7				7		7	7	<b>*</b> 1>	
Traffic Volume (veh/h)	0	95	5	0	0	0	5	0	15	80	5	140
Future Volume (Veh/h)	0	95	5	0	0	0	5	0	15	80	5	140
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	0	128	7	0	0	0	7	0	20	108	7	189
Pedestrians		4			2			2			2	
Lane Width (ft)		12.0			0.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			0	
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											309	
pX, platoon unblocked												
vC, conflicting volume	338	358	104	305	432	4	200			22		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	338	358	104	305	432	4	200			22		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	76	99	100	100	100	99			93		
cM capacity (veh/h)	555	524	925	474	476	1076	1364			1592		
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3						
Volume Total	135	7	20	108	5	191						
Volume Left	0	7	0	108	0	0						
Volume Right	7	0	20	0	0	189						
cSH	553	1364	1700	1592	1700	1700						
Volume to Capacity	0.24	0.01	0.01	0.07	0.00	0.11						
Queue Length 95th (ft)	24	0	0	5	0	0						
Control Delay (s)	13.8	7.7	0.0	7.4	0.0	0.0						
Lane LOS	В	Α		Α								
Approach Delay (s)	13.8	2.0		2.6								
Approach LOS	В											
Intersection Summary												
Average Delay			5.8									
Intersection Capacity Utiliza	tion		23.9%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

	٠	*	1	<b>†</b>	<b>↓</b>	4	
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	1/4	7		<b>↑</b>			
Traffic Volume (veh/h)	110	80	0	135	0	0	
Future Volume (Veh/h)	110	80	0	135	0	0	
Sign Control	Free			Yield	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	
Hourly flow rate (vph)	138	100	0	169	0	0	
Pedestrians	27			4	1		
Lane Width (ft)	12.0			12.0	0.0		
Walking Speed (ft/s)	3.5			3.5	3.5		
Percent Blockage	3			0	0		
Right turn flare (veh)							
Median type	None						
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	1		307	281	281	28	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1		307	281	281	28	
tC, single (s)	4.1		7.1	6.5	6.5	6.2	
tC, 2 stage (s)							
tF (s)	2.2		3.5	4.0	4.0	3.3	
p0 queue free %	91		100	70	100	100	
cM capacity (veh/h)	1622		584	572	572	1020	
Direction, Lane #	EB 1	EB 2	EB 3	NB 1			
Volume Total	69	69	100	169			
Volume Left	69	69	0	0			
Volume Right	0	0	100	0			
cSH	1622	1622	1700	572			
Volume to Capacity	0.09	0.09	0.06	0.30			
Queue Length 95th (ft)	7	7	0	31			
Control Delay (s)	7.4	7.4	0.0	13.9			
Lane LOS	Α	Α		В			
Approach Delay (s)	4.3			13.9			
Approach LOS				В			
Intersection Summary							
Average Delay			8.3				
Intersection Capacity Utiliza	ation		18.4%	IC	III evel c	of Service	
Analysis Period (min)	auOH		15.4 /6	10	O LOVEI C	, OCIVICE	
Alialysis Fellou (IIIIII)			10				

# Proposed AM Conditions – Alternative 3-6

	-	•	•	•	•	<b>/</b>
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	<b>1</b>			4	7	7
Traffic Volume (veh/h)	15	10	20	25	30	15
Future Volume (Veh/h)	15	10	20	25	30	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	19	13	26	32	38	19
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)				7.55		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			32		110	26
vC1, stage 1 conf vol			<u> </u>			
vC2, stage 2 conf vol						
vCu, unblocked vol			32		110	26
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					4	<u> </u>
tF (s)			2.2		3.5	3.3
p0 queue free %			98		96	98
cM capacity (veh/h)			1580		873	1050
	ED 4	VA/D 4		ND 0		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	32	58	38	19		
Volume Left	0	26	38	0		
Volume Right	13	0	0	19		
cSH	1700	1580	873	1050		
Volume to Capacity	0.02	0.02	0.04	0.02		
Queue Length 95th (ft)	0	1	3	1		
Control Delay (s)	0.0	3.3	9.3	8.5		
Lane LOS		Α	Α	Α		
Approach Delay (s)	0.0	3.3	9.0			
Approach LOS			Α			
Intersection Summary						
Average Delay			4.8			
Intersection Capacity Utiliza	ation		19.1%	IC	U Level c	f Service
Analysis Period (min)			15			

	•	*	•	<b>†</b>	ţ	<b>√</b>
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			<b></b>	<b>*</b>	
Traffic Volume (veh/h)	10	15	0	40	35	0
Future Volume (Veh/h)	10	15	0	40	35	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	16	0	42	37	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				_	<del>-</del>	
pX, platoon unblocked						
vC, conflicting volume	79	37	37			
vC1, stage 1 conf vol	37		<u> </u>			
vC2, stage 2 conf vol	42					
vCu, unblocked vol	79	37	37			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4	V. <u> </u>				
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	98	100			
cM capacity (veh/h)	940	1035	1574			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	27	42	37			
Volume Left	11	0	0			
Volume Right	16	0	0			
cSH	994	1700	1700			
Volume to Capacity	0.03	0.02	0.02			
Queue Length 95th (ft)	2	0	0			
Control Delay (s)	8.7	0.0	0.0			
Lane LOS	Α					
Approach Delay (s)	8.7	0.0	0.0			
Approach LOS	Α					
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utiliza	ation		13.3%	I	CU Level o	of Service
Analysis Period (min)			15	•		
			.0			

	•	•	•	†	<b>+</b>	4
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		ሻ	<b>*</b>	₽	
Traffic Volume (veh/h)	5	5	5	45	20	25
Future Volume (Veh/h)	5	5	5	45	20	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	5	5	5	49	22	27
Pedestrians	5					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					<del>-</del>	
pX, platoon unblocked						
vC, conflicting volume	100	40	54			
vC1, stage 1 conf vol	40					
vC2, stage 2 conf vol	59					
vCu, unblocked vol	100	40	54			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	100			
cM capacity (veh/h)	920	1026	1544			
	EB 1	NB 1	NB 2	SB 1		
Direction, Lane # Volume Total						
	10	5	49	49		
Volume Left	5	5	0	0		
Volume Right	5	0	0	27		
cSH	970	1544	1700	1700		
Volume to Capacity	0.01	0.00	0.03	0.03		
Queue Length 95th (ft)	1	0	0	0		
Control Delay (s)	8.7	7.3	0.0	0.0		
Lane LOS	A	A		2.0		
Approach Delay (s)	8.7	0.7		0.0		
Approach LOS	А					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utiliza	ation		14.9%	IC	U Level c	f Service
Analysis Period (min)			15			

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4		¥	- 1>		, J	- 1		7	- 1	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	10	45	10	15	35	5	10	35	5	5	20	5
Future Volume (vph)	10	45	10	15	35	5	10	35	5	5	20	5
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	13	59	13	20	46	7	13	46	7	7	26	7
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	85	20	53	13	53	7	33					
Volume Left (vph)	13	20	0	13	0	7	0					
Volume Right (vph)	13	0	7	0	7	0	7					
Hadj (s)	-0.03	0.53	-0.06	0.53	-0.06	0.53	-0.11					
Departure Headway (s)	4.8	5.4	4.8	5.5	4.9	5.5	4.8					
Degree Utilization, x	0.11	0.03	0.07	0.02	0.07	0.01	0.04					
Capacity (veh/h)	729	647	729	633	709	626	712					
Control Delay (s)	8.4	7.3	6.9	7.4	7.1	7.4	6.9					
Approach Delay (s)	8.4	7.0		7.1		7.0						
Approach LOS	Α	Α		Α		Α						
Intersection Summary												
Delay			7.5									
Level of Service			Α									
Intersection Capacity Utilizat	tion		24.5%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

	•	-	•	•	•	•	•	<b>†</b>	<i>&gt;</i>	<b>&gt;</b>	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<b>↑</b> Ъ			41∌		J.	- 1>		J.	- 1>	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	5	30	10	10	40	10	20	35	10	5	15	5
Future Volume (vph)	5	30	10	10	40	10	20	35	10	5	15	5
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	6	39	13	13	52	13	26	45	13	6	19	6
Direction, Lane #	EB 1	EB2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	26	33	39	39	26	58	6	25				
Volume Left (vph)	6	0	13	0	26	0	6	0				
Volume Right (vph)	0	13	0	13	0	13	0	6				
Hadj (s)	0.15	-0.25	0.20	-0.20	0.53	-0.12	0.53	-0.13				
Departure Headway (s)	5.0	4.6	5.0	4.6	5.4	4.7	5.4	4.8				
Degree Utilization, x	0.04	0.04	0.05	0.05	0.04	0.08	0.01	0.03				
Capacity (veh/h)	702	756	690	752	647	735	637	728				
Control Delay (s)	7.0	6.6	7.1	6.7	7.4	6.9	7.3	6.7				
Approach Delay (s)	6.8		6.9		7.1		6.8					
Approach LOS	Α		Α		Α		Α					
Intersection Summary												
Delay			6.9									
Level of Service			Α									
Intersection Capacity Utiliza	tion		22.2%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

	•	-	•	•	•	•	4	<b>†</b>	<b>/</b>	<b>&gt;</b>	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	, J	<b>ተ</b> ኈ		¥	<b>↑</b> ↑		J.	- 1>		,	- 1>	
Traffic Volume (vph)	20	520	20	15	500	10	30	30	20	5	10	20
Future Volume (vph)	20	520	20	15	500	10	30	30	20	5	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)	6.0	6.0		6.0	6.0		4.5	4.5		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.94		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3515		1756	3529		1688	1693		1711	1595	
Flt Permitted	0.41	1.00		0.39	1.00		0.73	1.00		0.72	1.00	
Satd. Flow (perm)	757	3515		723	3529		1301	1693		1289	1595	
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	25	658	25	19	633	13	38	38	25	6	13	25
RTOR Reduction (vph)	0	2	0	0	1	0	0	22	0	0	22	0
Lane Group Flow (vph)	25	681	0	19	645	0	38	41	0	6	16	0
Confl. Peds. (#/hr)			7	7			8					8
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	75.6	75.6		75.6	75.6		13.9	13.9		12.4	12.4	
Effective Green, g (s)	75.6	75.6		75.6	75.6		13.9	13.9		12.4	12.4	
Actuated g/C Ratio	0.76	0.76		0.76	0.76		0.14	0.14		0.12	0.12	
Clearance Time (s)	6.0	6.0		6.0	6.0		4.5	4.5		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	572	2657		546	2667		180	235		159	197	
v/s Ratio Prot		c0.19			0.18			0.02			0.01	
v/s Ratio Perm	0.03			0.03			c0.03			0.00		
v/c Ratio	0.04	0.26		0.03	0.24		0.21	0.18		0.04	0.08	
Uniform Delay, d1	3.1	3.7		3.1	3.6		38.2	38.0		38.5	38.8	
Progression Factor	1.00	1.00		0.83	0.77		1.22	1.31		1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.1	0.2		0.6	0.4		0.2	0.4	
Delay (s)	3.2	3.9		2.6	3.0		47.0	50.2		38.8	39.1	
Level of Service	Α	Α		Α	A		D	D		D	D	
Approach Delay (s)		3.9			3.0			49.0			39.1	
Approach LOS		Α			Α			D			D	
Intersection Summary												
HCM 2000 Control Delay			7.5	H	CM 2000	Level of	Service		Α			
HCM 2000 Volume to Capa	city ratio		0.25									
Actuated Cycle Length (s)			100.0		um of lost				12.0			
Intersection Capacity Utiliza	ition		39.5%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

	۶	<b>→</b>	•	•	•	•	1	<b>†</b>	<b>/</b>	<b>/</b>	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>↑</b> ⊅		ሻ	<b>↑</b> 1>		75	1≽		ሻ	1>	
Traffic Volume (vph)	20	490	20	10	475	15	35	30	20	5	5	20
Future Volume (vph)	20	490	20	10	475	15	35	30	20	5	5	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.94		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3515		1765	3521		1711	1674		1702	1586	
Flt Permitted	0.44	1.00		0.43	1.00		0.74	1.00		0.72	1.00	
Satd. Flow (perm)	816	3515		795	3521		1329	1674		1289	1586	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	23	570	23	12	552	17	41	35	23	6	6	23
RTOR Reduction (vph)	0	2	0	0	1	0	0	21	0	0	20	0
Lane Group Flow (vph)	23	591	0	12	568	0	41	37	0	6	9	0
Confl. Peds. (#/hr)			2	2					3	3		
Confl. Bikes (#/hr)			5			5			5			
Turn Type	Perm	NA	-	Perm	NA	-	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4	•		8			2	_		6		
Actuated Green, G (s)	78.3	78.3		78.3	78.3		9.7	9.7		11.2	11.2	
Effective Green, g (s)	78.3	78.3		78.3	78.3		9.7	9.7		11.2	11.2	
Actuated g/C Ratio	0.78	0.78		0.78	0.78		0.10	0.10		0.11	0.11	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		4.5	4.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		3.0	3.0	
Lane Grp Cap (vph)	638	2752		622	2756		128	162		144	177	
v/s Ratio Prot	000	c0.17		ULL	0.16		120	0.02			0.01	
v/s Ratio Perm	0.03	00.17		0.02	0.10		c0.03	0.02		0.00	0.01	
v/c Ratio	0.04	0.21		0.02	0.21		0.32	0.23		0.04	0.05	
Uniform Delay, d1	2.4	2.8		2.4	2.8		42.1	41.7		39.6	39.6	
Progression Factor	0.20	0.17		1.00	1.00		1.02	1.04		1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.1	0.2		3.0	1.5		0.1	0.1	
Delay (s)	0.6	0.7		2.4	3.0		46.1	44.8		39.7	39.8	
Level of Service	A	A		A	A		D	D		D	D	
Approach Delay (s)	,,	0.6		, , , , , , , , , , , , , , , , , , ,	3.0			45.3			39.8	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM 2000 Control Delay			6.0	H	CM 2000	Level of S	Service		Α			
HCM 2000 Volume to Capaci	tv ratio		0.23									
Actuated Cycle Length (s)	,		100.0	Sı	um of lost	time (s)			12.0			
Intersection Capacity Utilization	on		35.8%		U Level				A			
Analysis Period (min)			15									
c Critical Lane Group			.0									

	۶	<b>→</b>	$\rightarrow$	•	•	•	•	<b>†</b>	<b>/</b>	<b>&gt;</b>	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ሻ	₽		ሻ	₽	
Traffic Volume (vph)	5	155	5	25	200	20	10	70	50	10	15	5
Future Volume (vph)	5	155	5	25	200	20	10	70	50	10	15	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		6.0			6.0		5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		0.98	1.00	
Frt		1.00			0.99		1.00	0.94		1.00	0.96	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1849			1824		1711	1688		1684	1720	
Flt Permitted		0.99			0.96		0.74	1.00		0.66	1.00	
Satd. Flow (perm)		1835			1762		1335	1688		1177	1720	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	6	189	6	30	244	24	12	85	61	12	18	6
RTOR Reduction (vph)	0	2	0	0	4	0	0	50	0	0	5	0
Lane Group Flow (vph)	0	199	0	0	294	0	12	96	0	12	19	0
Confl. Peds. (#/hr)	5		25	25		5				13		7
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		29.7			29.7		9.3	9.3		9.3	9.3	
Effective Green, g (s)		29.7			29.7		9.3	9.3		9.3	9.3	
Actuated g/C Ratio		0.59			0.59		0.19	0.19		0.19	0.19	
Clearance Time (s)		6.0			6.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		1089			1046		248	313		218	319	
v/s Ratio Prot								c0.06			0.01	
v/s Ratio Perm		0.11			c0.17		0.01			0.01		
v/c Ratio		0.18			0.28		0.05	0.31		0.06	0.06	
Uniform Delay, d1		4.6			4.9		16.7	17.6		16.7	16.8	
Progression Factor		1.00			0.37		1.00	1.00		1.03	1.06	
Incremental Delay, d2		0.4			0.7		0.2	1.2		0.2	0.2	
Delay (s)		5.0			2.5		16.9	18.7		17.4	17.8	
Level of Service		Α			Α		В	В		В	В	
Approach Delay (s)		5.0			2.5			18.6			17.7	
Approach LOS		Α			Α			В			В	
Intersection Summary												
HCM 2000 Control Delay			7.7	H	CM 2000	Level of S	Service		Α			
HCM 2000 Volume to Capacit	ty ratio		0.29									
Actuated Cycle Length (s)			50.0	Sı	um of lost	time (s)			11.0			
Intersection Capacity Utilization	on		41.2%		U Level o				Α			
Analysis Period (min)			15									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		स			र्स	7	Ŋ.	1}		Ĭ	1}	_
Traffic Volume (vph)	5	205	5	20	245	25	10	70	55	10	15	5
Future Volume (vph)	5	205	5	20	245	25	10	70	55	10	15	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	0.98		1.00	0.99	
Flpb, ped/bikes		1.00			1.00	1.00	0.98	1.00		0.99	1.00	
Frt		1.00			1.00	0.85	1.00	0.93		1.00	0.96	
Flt Protected		1.00			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1852			1854	1529	1677	1655		1688	1712	
Flt Permitted		0.99			0.97	1.00	0.74	1.00		0.67	1.00	
Satd. Flow (perm)		1840			1806	1529	1310	1655		1185	1712	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	6	230	6	22	275	28	11	79	62	11	17	6
RTOR Reduction (vph)	0	1	0	0	0	12	0	51	0	0	5	0
Lane Group Flow (vph)	0	241	0	0	297	16	11	90	0	11	18	0
Confl. Peds. (#/hr)	10		11	11		10	14		11	11		14
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Actuated Green, G (s)		28.8			28.8	28.8	9.2	9.2		9.2	9.2	
Effective Green, g (s)		28.8			28.8	28.8	9.2	9.2		9.2	9.2	
Actuated g/C Ratio		0.58			0.58	0.58	0.18	0.18		0.18	0.18	
Clearance Time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		1059			1040	880	241	304		218	315	
v/s Ratio Prot								c0.05			0.01	
v/s Ratio Perm		0.13			c0.16	0.01	0.01			0.01		
v/c Ratio		0.23			0.29	0.02	0.05	0.30		0.05	0.06	
Uniform Delay, d1		5.2			5.4	4.5	16.8	17.6		16.8	16.8	
Progression Factor		0.70			1.00	1.00	1.00	1.00		0.95	0.92	
Incremental Delay, d2		0.5			0.7	0.0	0.2	1.1		0.2	0.2	
Delay (s)		4.1			6.1	4.6	17.0	18.8		16.1	15.7	
Level of Service		Α			Α	Α	В	В		В	В	
Approach Delay (s)		4.1			5.9			18.6			15.8	
Approach LOS		Α			Α			В			В	
Intersection Summary												
HCM 2000 Control Delay			8.4	Н	CM 2000	Level of	Service		А			
HCM 2000 Volume to Capacit	ty ratio		0.29									
Actuated Cycle Length (s)	•		50.0	S	um of lost	time (s)			12.0			
Intersection Capacity Utilization	on		52.9%		U Level				A			
Analysis Period (min)			15									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4	7		4		7	1>		ሻ	₽	
Traffic Volume (veh/h)	45	50	5	5	15	10	5	80	5	30	5	20
Future Volume (Veh/h)	45	50	5	5	15	10	5	80	5	30	5	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	54	60	6	6	18	12	6	96	6	36	6	24
Pedestrians		1			1							
Lane Width (ft)		12.0			12.0							
Walking Speed (ft/s)		3.5			3.5							
Percent Blockage		0			0							
Right turn flare (veh)			2									
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)											309	
pX, platoon unblocked												
vC, conflicting volume	220	206	19	223	215	100	31			103		
vC1, stage 1 conf vol	91	91		112	112							
vC2, stage 2 conf vol	129	115		111	103							
vCu, unblocked vol	220	206	19	223	215	100	31			103		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	92	99	99	98	99	100			98		
cM capacity (veh/h)	768	723	1058	755	730	955	1580			1487		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	120	36	6	102	36	30						
Volume Left	54	6	6	0	36	0						
Volume Right	6	12	0	6	0	24						
cSH	784	797	1580	1700	1487	1700						
Volume to Capacity	0.15	0.05	0.00	0.06	0.02	0.02						
Queue Length 95th (ft)	13	4	0	0	2	0						
Control Delay (s)	10.6	9.7	7.3	0.0	7.5	0.0						
Lane LOS	В	Α	Α		Α							
Approach Delay (s)	10.6	9.7	0.4		4.1							
Approach LOS	В	Α										
Intersection Summary												
Average Delay			5.9									
Intersection Capacity Utilization			26.9%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

	•	•	•	<b>†</b>	<b></b>	4
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	<u>ነ</u>	7	ሻ	<b></b>	1>	
Traffic Volume (veh/h)	50	35	25	85	25	15
Future Volume (Veh/h)	50	35	25	85	25	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	58	41	29	99	29	17
Pedestrians	15			3		
Lane Width (ft)	12.0			11.0		
Walking Speed (ft/s)	3.5			3.5		
Percent Blockage	1			0		
Right turn flare (veh)		4				
Median type				None	TWLTL	
Median storage veh)					2	
Upstream signal (ft)					143	
pX, platoon unblocked						
vC, conflicting volume	210	56	61			
vC1, stage 1 conf vol	52					
vC2, stage 2 conf vol	157					
vCu, unblocked vol	210	56	61			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	96	98			
cM capacity (veh/h)	820	994	1520			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total						
Volume Left	99 58	29	99	46		
		29	0	0		
Volume Right	41	0	0	17		
cSH	1400	1520	1700	1700		
Volume to Capacity	0.07	0.02	0.06	0.03		
Queue Length 95th (ft)	6	1	0	0		
Control Delay (s)	9.3	7.4	0.0	0.0		
Lane LOS	A	A				
Approach Delay (s)	9.3	1.7		0.0		
Approach LOS	Α					
Intersection Summary						
Average Delay			4.2			
Intersection Capacity Utiliza	ation		19.0%	10	CU Level c	of Service
Analysis Period (min)			15			

## Proposed PM Conditions – Alternative 3-6

	-	•	•	•	•	<b>/</b>
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1>			4	*	7
Traffic Volume (veh/h)	20	20	20	25	25	30
Future Volume (Veh/h)	20	20	20	25	25	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	24	24	24	30	30	36
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			48		114	36
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			48		114	36
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		97	97
cM capacity (veh/h)			1559		869	1037
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	48	54	30	36		
Volume Left	0	24	30	0		
Volume Right	24	0	0	36		
cSH	1700	1559	869	1037		
Volume to Capacity	0.03	0.02	0.03	0.03		
Queue Length 95th (ft)	0	1	3	3		
Control Delay (s)	0.0	3.3	9.3	8.6		
Lane LOS		Α	Α	Α		
Approach Delay (s)	0.0	3.3	8.9			
Approach LOS			Α			
Intersection Summary						
Average Delay			4.6			
Intersection Capacity Utiliz	zation		19.1%	IC	U Level o	of Service
Analysis Period (min)			15.170	.0	2 201010	55. 1100
Analysis i Gilou (IIIII)			10			

	•	*	•	<b>†</b>	<b>↓</b>	<b>√</b>
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			<b>*</b>	<b>*</b>	
Traffic Volume (veh/h)	15	20	0	30	65	0
Future Volume (Veh/h)	15	20	0	30	65	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	17	23	0	34	75	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)				_	_	
pX, platoon unblocked						
vC, conflicting volume	109	75	75			
vC1, stage 1 conf vol	75					
vC2, stage 2 conf vol	34					
vCu, unblocked vol	109	75	75			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	100			
cM capacity (veh/h)	915	986	1524			
			SB 1			
Direction, Lane #	EB 1	NB 1				
Volume Total	40	34	75			
Volume Left	17	0	0			
Volume Right	23	0	0			
cSH	955	1700	1700			
Volume to Capacity	0.04	0.02	0.04			
Queue Length 95th (ft)	3	0	0			
Control Delay (s)	8.9	0.0	0.0			
Lane LOS	Α					
Approach Delay (s)	8.9	0.0	0.0			
Approach LOS	Α					
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utiliza	ation		13.4%	I	CU Level o	of Service
Analysis Period (min)			15			
			.0			

	•	•	1	†	<b></b>	4
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		ሻ	<b></b>	₽	
Traffic Volume (veh/h)	5	5	5	35	75	20
Future Volume (Veh/h)	5	5	5	35	75	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	6	6	6	44	94	25
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)	-					
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					<del>-</del>	
pX, platoon unblocked						
vC, conflicting volume	164	108	120			
vC1, stage 1 conf vol	108					
vC2, stage 2 conf vol	56					
vCu, unblocked vol	164	108	120			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4	<u> </u>				
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	100			
cM capacity (veh/h)	875	946	1466			
	EB 1	NB 1	NB 2	SB 1		
Direction, Lane #						
Volume Total	12	6	44	119		
Volume Left	6	6	0	0		
Volume Right	6	0	1700	25		
cSH	909	1466	1700	1700		
Volume to Capacity	0.01	0.00	0.03	0.07		
Queue Length 95th (ft)	1	0	0	0		
Control Delay (s)	9.0	7.5	0.0	0.0		
Lane LOS	A	A		2.2		
Approach Delay (s)	9.0	0.9		0.0		
Approach LOS	Α					
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utiliza	ation		15.5%	IC	U Level c	of Service
Analysis Period (min)			15			

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4		, J	- 1>		, J	- 1>		7	- 1	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	10	50	25	25	20	10	10	20	5	10	60	5
Future Volume (vph)	10	50	25	25	20	10	10	20	5	10	60	5
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	13	63	32	32	25	13	13	25	6	13	76	6
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	108	32	38	13	31	13	82					
Volume Left (vph)	13	32	0	13	0	13	0					
Volume Right (vph)	32	0	13	0	6	0	6					
Hadj (s)	-0.12	0.53	-0.21	0.53	-0.10	0.53	-0.02					
Departure Headway (s)	4.8	5.5	4.7	5.6	4.9	5.5	5.0					
Degree Utilization, x	0.14	0.05	0.05	0.02	0.04	0.02	0.11					
Capacity (veh/h)	726	630	729	618	695	622	694					
Control Delay (s)	8.6	7.6	6.8	7.5	7.0	7.4	7.4					
Approach Delay (s)	8.6	7.1		7.1		7.4						
Approach LOS	Α	Α		Α		Α						
Intersection Summary												
Delay			7.7									
Level of Service			Α									
Intersection Capacity Utilizat	tion		26.9%	IC	CU Level o	of Service			Α			
Analysis Period (min)			15									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		414			41∌		J.	- 1>		7	4	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	20	40	15	25	25	5	15	30	10	5	40	5
Future Volume (vph)	20	40	15	25	25	5	15	30	10	5	40	5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	21	41	15	26	26	5	15	31	10	5	41	5
Direction, Lane #	EB 1	EB2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	42	36	39	18	15	41	5	46				
Volume Left (vph)	21	0	26	0	15	0	5	0				
Volume Right (vph)	0	15	0	5	0	10	0	5				
Hadj (s)	0.29	-0.26	0.37	-0.16	0.53	-0.14	0.53	-0.04				
Departure Headway (s)	5.1	4.5	5.2	4.7	5.4	4.7	5.4	4.8				
Degree Utilization, x	0.06	0.04	0.06	0.02	0.02	0.05	0.01	0.06				
Capacity (veh/h)	690	766	669	746	644	734	640	719				
Control Delay (s)	7.2	6.6	7.3	6.6	7.3	6.8	7.2	6.9				
Approach Delay (s)	6.9		7.1		6.9		7.0					
Approach LOS	Α		Α		Α		Α					
Intersection Summary												
Delay			7.0									
Level of Service			Α									
Intersection Capacity Utiliza	tion		23.7%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

	۶	<b>→</b>	•	•	•	•	1	<b>†</b>	<b>/</b>	<b>/</b>	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	J.	<b>ተ</b> ኈ		J.	<b>↑</b> ↑		J.	<b>₽</b>		J.	ĵ₃	
Traffic Volume (vph)	10	415	20	20	550	10	30	25	20	20	50	60
Future Volume (vph)	10	415	20	20	550	10	30	25	20	20	50	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	14	14	12	14	14
Total Lost time (s)	6.0	6.0		6.0	6.0		4.5	4.5		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.93		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3510		1759	3529		1740	1841		1761	1791	
Flt Permitted	0.40 <b>753</b>	1.00		0.47 863	1.00 3529		0.58 1071	1.00 1841		0.72 1341	1.00 1791	
Satd. Flow (perm)		3510	0.00			0.00			0.00			0.00
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	12	483	23	23	640	12	35	29	23	23	58	70
RTOR Reduction (vph)	0 12	2 504	0	0 23	1	0	0 35	20	0	0	56 72	0
Lane Group Flow (vph)	IZ	504			651	0	35 12	32	0	23 3	12	0 12
Confl. Peds. (#/hr)	D	NIA	4	<u>4</u>	NIA			NIA	<u>ა</u>		N I A	12
Turn Type Protected Phases	Perm	NA 4		Perm	NA 8		Perm	NA 2		Perm	NA 6	
Permitted Phases	4	4		8	0		2			6	0	
Actuated Green, G (s)	76.7	76.7		76.7	76.7		12.8	12.8		12.3	12.3	
Effective Green, g (s)	76.7	76.7		76.7	76.7		12.8	12.8		12.3	12.3	
Actuated g/C Ratio	0.77	0.77		0.77	0.77		0.13	0.13		0.12	0.12	
Clearance Time (s)	6.0	6.0		6.0	6.0		4.5	4.5		5.0	5.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	577	2692		661	2706		137	235		164	220	
v/s Ratio Prot	511	0.14		001	c0.18		101	0.02		104	c0.04	
v/s Ratio Perm	0.02	0.14		0.03	60.10		0.03	0.02		0.02	CO.04	
v/c Ratio	0.02	0.19		0.03	0.24		0.26	0.14		0.02	0.33	
Uniform Delay, d1	2.8	3.2		2.8	3.3		39.3	38.7		39.1	40.1	
Progression Factor	1.00	1.00		0.80	0.78		1.00	1.03		1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.1	0.2		1.0	0.3		0.8	1.8	
Delay (s)	2.8	3.3		2.3	2.8		40.2	40.2		40.0	41.9	
Level of Service	A	Α		A	A		D	D		D	D	
Approach Delay (s)		3.3			2.8			40.2			41.6	
Approach LOS		А			Α			D			D	
Intersection Summary												
HCM 2000 Control Delay			9.3	H	CM 2000	Level of	Service		Α			
HCM 2000 Volume to Capac	city ratio		0.25									
Actuated Cycle Length (s)			100.0	Sı	um of lost	time (s)			11.0			
Intersection Capacity Utilizat	tion		35.7%		U Level o				Α			
Analysis Period (min)			15									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	ተኈ		ሻ	<b>∱</b> ⊅		ሻ	₽		ሻ	₽	
Traffic Volume (vph)	10	430	10	10	505	10	40	30	25	10	40	25
Future Volume (vph)	10	430	10	10	505	10	40	30	25	10	40	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	14	14	12	14	14
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.93		1.00	0.94	
Fit Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3527		1770	3529		1764	1852		1770	1862	
Flt Permitted	0.42	1.00		0.46	1.00		0.71	1.00		0.72	1.00	
Satd. Flow (perm)	787	3527		858	3529		1314	1852		1332	1862	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	12	506	12	12	594	12	47	35	29	12	47	29
RTOR Reduction (vph)	0	1	0	0	1	0	0	26	0	0	26	0
Lane Group Flow (vph)	12	517	0	12	605	0	47	38	0	12	50	0
Confl. Peds. (#/hr)							2					2
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	78.1	78.1		78.1	78.1		9.9	9.9		11.4	11.4	
Effective Green, g (s)	78.1	78.1		78.1	78.1		9.9	9.9		11.4	11.4	
Actuated g/C Ratio	0.78	0.78		0.78	0.78		0.10	0.10		0.11	0.11	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		4.5	4.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		3.0	3.0	
Lane Grp Cap (vph)	614	2754		670	2756		130	183		151	212	
v/s Ratio Prot		0.15			c0.17			0.02			0.03	
v/s Ratio Perm	0.02			0.01			c0.04			0.01		
v/c Ratio	0.02	0.19		0.02	0.22		0.36	0.21		0.08	0.24	
Uniform Delay, d1	2.4	2.8		2.4	2.9		42.1	41.4		39.6	40.3	
Progression Factor	0.44	0.44		1.00	1.00		0.86	0.77		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.0	0.2		3.5	1.2		0.2	0.6	
Delay (s)	1.1	1.4		2.5	3.1		39.6	33.0		39.8	40.9	
Level of Service	Α	Α		Α	Α		D	С		D	D	
Approach Delay (s)		1.4			3.1			35.8			40.8	
Approach LOS		Α			Α			D			D	
Intersection Summary												
HCM 2000 Control Delay			7.6	H	CM 2000	Level of S	Service		Α			
HCM 2000 Volume to Capac	city ratio		0.24									
Actuated Cycle Length (s)			100.0	Sı	um of lost	time (s)			12.0			
Intersection Capacity Utilizat	tion		33.2%		U Level o				A			
Analysis Period (min)			15									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		, J	ĵ₃		J.	1>	
Traffic Volume (vph)	15	315	25	30	290	15	10	45	45	30	60	15
Future Volume (vph)	15	315	25	30	290	15	10	45	45	30	60	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	14	14	12	14	14
Total Lost time (s)		6.0			6.0		5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		0.96	1.00	
Frt		0.99			0.99		1.00	0.93		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1825			1829		1770	1838		1693	1887 1.00	
Fit Permitted		0.98 1791			0.94 1733		0.70 1307	1.00 1838		0.68 1215	1887	
Satd. Flow (perm)	0.00		0.00	0.00		0.00			0.00			0.00
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	17	358	28	34	330	17	11	51	51	34	68	17
RTOR Reduction (vph)	0	2	0	0	1	0	0 11	41	0	0	10	0
Lane Group Flow (vph)	0	401	0 32	0	380	0	11	61	0	34 17	75	0
Confl. Peds. (#/hr)	17	NIA	32	32	NIA	17	D	NIA			NIA	29
Turn Type Protected Phases	Perm	NA 2		Perm	NA 2		Perm	NA 4		Perm	NA	
Permitted Phases	2	2		2			4	4		4	4	
Actuated Green, G (s)	2	75.3		2	75.3		13.7	13.7		13.7	13.7	
Effective Green, g (s)		75.3			75.3		13.7	13.7		13.7	13.7	
Actuated g/C Ratio		0.75			0.75		0.14	0.14		0.14	0.14	
Clearance Time (s)		6.0			6.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		1348			1304		179	251		166	258	
v/s Ratio Prot		1340			1004		113	0.03		100	c0.04	
v/s Ratio Perm		c0.22			0.22		0.01	0.00		0.03	00.04	
v/c Ratio		0.30			0.29		0.06	0.24		0.20	0.29	
Uniform Delay, d1		3.9			3.9		37.6	38.5		38.3	38.8	
Progression Factor		1.00			0.79		1.00	1.00		0.92	0.91	
Incremental Delay, d2		0.6			0.6		0.3	1.0		1.3	1.3	
Delay (s)		4.5			3.6		37.9	39.6		36.4	36.7	
Level of Service		Α			Α		D	D		D	D	
Approach Delay (s)		4.5			3.6			39.4			36.7	
Approach LOS		Α			Α			D			D	
Intersection Summary												
HCM 2000 Control Delay			11.8	H	CM 2000	Level of	Service		В			
HCM 2000 Volume to Capacit	ty ratio		0.30									
Actuated Cycle Length (s)			100.0	Sı	um of lost	time (s)			11.0			
Intersection Capacity Utilization	on		49.0%		U Level o				Α			
Analysis Period (min)			15									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			र्स	7	ሻ	1}		ሻ	1}	
Traffic Volume (vph)	15	375	10	25	285	20	20	50	85	20	30	15
Future Volume (vph)	15	375	10	25	285	20	20	50	85	20	30	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	14	14	12	14	14
Total Lost time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	0.95	1.00	0.97		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	0.96	1.00		1.00	1.00	
Frt		1.00			1.00	0.85	1.00	0.91		1.00	0.95	
Flt Protected		1.00			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1849			1853	1497	1697	1751		1770	1886	
FIt Permitted		0.98			0.94	1.00	0.72	1.00		0.51	1.00	
Satd. Flow (perm)		1816			1751	1497	1287	1751		958	1886	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	19	463	12	31	352	25	25	62	105	25	37	19
RTOR Reduction (vph)	0	1	0	0	0	6	0	85	0	0	16	0
Lane Group Flow (vph)	0	493	0	0	383	19	25	82	0	25	40	0
Confl. Peds. (#/hr)	12		10	10		12	15		8			
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Actuated Green, G (s)		74.5			74.5	74.5	13.5	13.5		13.5	13.5	
Effective Green, g (s)		74.5			74.5	74.5	13.5	13.5		13.5	13.5	
Actuated g/C Ratio		0.74			0.74	0.74	0.14	0.14		0.14	0.14	
Clearance Time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		1352			1304	1115	173	236		129	254	
v/s Ratio Prot								c0.05			0.02	
v/s Ratio Perm		c0.27			0.22	0.01	0.02			0.03		
v/c Ratio		0.37			0.29	0.02	0.14	0.35		0.19	0.16	
Uniform Delay, d1		4.5			4.2	3.3	38.2	39.3		38.4	38.2	
Progression Factor		0.82			1.00	1.00	1.00	1.00		1.31	1.41	
Incremental Delay, d2		0.7			0.6	0.0	8.0	1.9		1.5	0.6	
Delay (s)		4.4			4.7	3.3	39.0	41.1		51.9	54.4	
Level of Service		Α			Α	Α	D	D		D	D	
Approach Delay (s)		4.4			4.6			40.8			53.6	
Approach LOS		Α			Α			D			D	
Intersection Summary												
HCM 2000 Control Delay			13.8	H	CM 2000	Level of	Service		В			
HCM 2000 Volume to Capaci	ity ratio		0.36									
Actuated Cycle Length (s)			100.0		um of lost				12.0			
Intersection Capacity Utilizati	on		60.1%	IC	U Level	of Service			В			
Analysis Period (min)			15									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		स	7		4		¥	f)		ሻ	1}	
Traffic Volume (veh/h)	55	60	35	20	35	15	5	35	15	35	10	95
Future Volume (Veh/h)	55	60	35	20	35	15	5	35	15	35	10	95
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	74	81	47	27	47	20	7	47	20	47	14	128
Pedestrians		4			2			2			2	
Lane Width (ft)		12.0			12.0			13.0			13.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			0	
Right turn flare (veh)			2									
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)											309	
pX, platoon unblocked												
vC, conflicting volume	282	259	84	247	313	61	146			69		
vC1, stage 1 conf vol	176	176		73	73							
vC2, stage 2 conf vol	106	83		174	240							
vCu, unblocked vol	282	259	84	247	313	61	146			69		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	88	95	96	93	98	100			97		
cM capacity (veh/h)	707	686	969	651	650	1000	1431			1529		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	202	94	7	67	47	142						
Volume Left	74	27	7	0	47	0						
Volume Right	47	20	0	20	0	128						
cSH	907	703	1431	1700	1529	1700						
Volume to Capacity	0.22	0.13	0.00	0.04	0.03	0.08						
Queue Length 95th (ft)	21	12	0	0	2	0						
Control Delay (s)	11.0	10.9	7.5	0.0	7.4	0.0						
Lane LOS	В	В	Α	0.0	Α							
Approach Delay (s)	11.0	10.9	0.7		1.8							
Approach LOS	В	В	0.1		110							
Intersection Summary												
Average Delay			6.5									
Intersection Capacity Utilization	on		26.6%	IC	CU Level	of Service			Α			
Analysis Period (min)			15		20.51							
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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	*	7		स	₽.	
Traffic Volume (veh/h)	55	50	40	95	40	30
Future Volume (Veh/h)	55	50	40	95	40	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	69	63	50	119	50	38
Pedestrians	27			4	1	
Lane Width (ft)	12.0			14.0	14.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	3			0.0	0.0	
Right turn flare (veh)		4			<u> </u>	
Median type				None	TWLTL	
Median storage veh)				140116	2	
Upstream signal (ft)					143	
pX, platoon unblocked	1.00	1.00	1.00		170	
vC, conflicting volume	316	100	115			
vC1, stage 1 conf vol	96	100	110			
vC2, stage 2 conf vol	220					
vCu, unblocked vol	310	93	108			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4	0.2	4.1			
tF (s)	3.5	3.3	2.2			
p0 queue free %	3.5 91	93	97			
	744	930	1437			
cM capacity (veh/h)						
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	132	169	88			
Volume Left	69	50	0			
Volume Right	63	0	38			
cSH	1424	1437	1700			
Volume to Capacity	0.09	0.03	0.05			
Queue Length 95th (ft)	8	3	0			
Control Delay (s)	9.8	2.4	0.0			
Lane LOS	Α	Α				
Approach Delay (s)	9.8	2.4	0.0			
Approach LOS	Α					
Intersection Summary						
Average Delay			4.4			
Intersection Capacity Utiliz	zation		25.1%	le	CU Level o	f Service
Analysis Period (min)			15			. 20.7100
marysis i chou (iiiii)			10			

## Proposed AM Conditions – Alternative 3-7

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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1→			4	ሻ	7
Traffic Volume (veh/h)	15	10	20	25	30	15
Future Volume (Veh/h)	15	10	20	25	30	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	19	13	26	32	38	19
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			32		110	26
vC1, stage 1 conf vol			<u> </u>			
vC2, stage 2 conf vol						
vCu, unblocked vol			32		110	26
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					<b>.</b>	V. <u> </u>
tF (s)			2.2		3.5	3.3
p0 queue free %			98		96	98
cM capacity (veh/h)			1580		873	1050
	ED 4	WD 4		ND 0		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	32	58	38	19		
Volume Left	0	26	38	0		
Volume Right	13	0	0	19		
cSH	1700	1580	873	1050		
Volume to Capacity	0.02	0.02	0.04	0.02		
Queue Length 95th (ft)	0	1	3	1		
Control Delay (s)	0.0	3.3	9.3	8.5		
Lane LOS		Α	Α	Α		
Approach Delay (s)	0.0	3.3	9.0			
Approach LOS			Α			
Intersection Summary						
Average Delay			4.8			
Intersection Capacity Utiliz	zation		19.1%	IC	U Level c	f Service
Analysis Period (min)			15			
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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			<b>A</b>	<b></b>	
Traffic Volume (veh/h)	10	15	0	40	35	0
Future Volume (Veh/h)	10	15	0	40	35	0
Sign Control	Stop		•	Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	16	0.00	42	37	0.00
Pedestrians		10			0,	
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage veh)				INOHE	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	79	37	37			
vC1, stage 1 conf vol	37	31	31			
vC2, stage 2 conf vol	42					
vCu, unblocked vol	79	37	37			
The state of the s	6.4	6.2	4.1			
tC, single (s)	5.4	0.2	4.1			
tC, 2 stage (s)		2.2	2.2			
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	98	100			
cM capacity (veh/h)	940	1035	1574			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	27	42	37			
Volume Left	11	0	0			
Volume Right	16	0	0			
cSH	994	1700	1700			
Volume to Capacity	0.03	0.02	0.02			
Queue Length 95th (ft)	2	0	0			
Control Delay (s)	8.7	0.0	0.0			
Lane LOS	Α					
Approach Delay (s)	8.7	0.0	0.0			
Approach LOS	А					
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utiliza	ation		13.3%	IC	CU Level o	of Service
Analysis Period (min)			15.070	10	2 20101	55, 1100
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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	¥			4	₽	
Traffic Volume (veh/h)	5	5	5	45	20	25
Future Volume (Veh/h)	5	5	5	45	20	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	5	5	5	49	22	27
Pedestrians	5					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	100	40	54			
vC1, stage 1 conf vol	100	10	<u> </u>			
vC2, stage 2 conf vol						
vCu, unblocked vol	100	40	54			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	0.1	0.2				
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	100			
cM capacity (veh/h)	892	1026	1544			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	10	54	49			
Volume Left	5	5	0			
Volume Right	5	0	27			
cSH	954	1544	1700			
Volume to Capacity	0.01	0.00	0.03			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.8	0.7	0.0			
Lane LOS	А	Α				
Approach Delay (s)	8.8	0.7	0.0			
Approach LOS	А					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utiliz	ation		16.5%	IC	CU Level c	f Service
Analysis Period (min)			15			
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4		ሻ	- ↑			4			4	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	10	45	10	15	35	5	10	35	5	5	20	5
Future Volume (vph)	10	45	10	15	35	5	10	35	5	5	20	5
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	13	59	13	20	46	7	13	46	7	7	26	7
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total (vph)	85	20	53	66	40							
Volume Left (vph)	13	20	0	13	7							
Volume Right (vph)	13	0	7	7	7							
Hadj (s)	-0.03	0.53	-0.06	0.01	-0.04							
Departure Headway (s)	4.3	5.3	4.7	4.3	4.3							
Degree Utilization, x	0.10	0.03	0.07	0.08	0.05							
Capacity (veh/h)	812	649	732	796	801							
Control Delay (s)	7.8	7.3	6.9	7.7	7.5							
Approach Delay (s)	7.8	7.0		7.7	7.5							
Approach LOS	Α	Α		Α	Α							
Intersection Summary												
Delay			7.5									
Level of Service			Α									
Intersection Capacity Utiliza	ation		21.3%	IC	CU Level o	of Service			Α			
Analysis Period (min)			15									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<b>↑</b> Ъ			41∌		J.	- 1>		7	- 1>	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	5	30	10	10	40	10	20	35	10	5	15	5
Future Volume (vph)	5	30	10	10	40	10	20	35	10	5	15	5
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	6	39	13	13	52	13	26	45	13	6	19	6
Direction, Lane #	EB 1	EB2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	26	33	39	39	26	58	6	25				
Volume Left (vph)	6	0	13	0	26	0	6	0				
Volume Right (vph)	0	13	0	13	0	13	0	6				
Hadj (s)	0.15	-0.25	0.20	-0.20	0.53	-0.12	0.53	-0.13				
Departure Headway (s)	5.0	4.6	5.0	4.6	5.4	4.7	5.4	4.8				
Degree Utilization, x	0.04	0.04	0.05	0.05	0.04	0.08	0.01	0.03				
Capacity (veh/h)	702	756	690	752	647	735	637	728				
Control Delay (s)	7.0	6.6	7.1	6.7	7.4	6.9	7.3	6.7				
Approach Delay (s)	6.8		6.9		7.1		6.8					
Approach LOS	Α		Α		Α		Α					
Intersection Summary												
Delay			6.9									
Level of Service			Α									
Intersection Capacity Utiliza	tion		22.2%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>ሶ</b>		ሻ	ተኈ			4			र्स	7
Traffic Volume (vph)	20	520	20	15	500	10	30	30	20	5	10	20
Future Volume (vph)	20	520	20	15	500	10	30	30	20	5	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			4.5			6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	0.97
Flpb, ped/bikes	1.00	1.00		0.99	1.00			0.99			1.00	1.00
Frt	1.00	0.99		1.00	1.00			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	1.00
Satd. Flow (prot)	1770	3515		1756	3529			1758			1834	1542
FIt Permitted	0.41	1.00		0.39	1.00			0.88			0.92	1.00
Satd. Flow (perm)	757	3515		723	3529			1576			1717	1542
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	25	658	25	19	633	13	38	38	25	6	13	25
RTOR Reduction (vph)	0	1	0	0	1	0	0	15	0	0	0	22
Lane Group Flow (vph)	25	682	0	19	645	0	0	86	0	0	19	3
Confl. Peds. (#/hr)			7	7			8					8
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	75.6	75.6		75.6	75.6			13.9			12.4	12.4
Effective Green, g (s)	75.6	75.6		75.6	75.6			13.9			12.4	12.4
Actuated g/C Ratio	0.76	0.76		0.76	0.76			0.14			0.12	0.12
Clearance Time (s)	6.0	6.0		6.0	6.0			4.5			6.0	6.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			5.0	5.0
Lane Grp Cap (vph)	572	2657		546	2667			219			212	191
v/s Ratio Prot		c0.19			0.18							
v/s Ratio Perm	0.03			0.03				c0.05			0.01	0.00
v/c Ratio	0.04	0.26		0.03	0.24			0.39			0.09	0.02
Uniform Delay, d1	3.1	3.7		3.1	3.6			39.2			38.8	38.4
Progression Factor	1.00	1.00		0.86	0.82			1.16			1.00	1.00
Incremental Delay, d2	0.1	0.2		0.1	0.2			1.1			0.4	0.1
Delay (s)	3.2	3.9		2.8	3.2			46.4			39.2	38.5
Level of Service	Α	Α		A	Α			D			D	D
Approach Delay (s)		3.9			3.2			46.4			38.8	
Approach LOS		Α			Α			D			D	
Intersection Summary												
HCM 2000 Control Delay			7.4	H	CM 2000	Level of	Service		Α			
HCM 2000 Volume to Capac	ity ratio		0.28									
Actuated Cycle Length (s)			100.0		um of lost				12.0			
Intersection Capacity Utilizat	ion		45.2%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									
c Critical Lane Group												

	۶	<b>→</b>	•	•	•	4	1	<b>†</b>	<b>/</b>	<b>/</b>	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>↑</b> ↑		ሻ	<b>∱</b> 1≽		ሻ	1≽		ሻ	- ↑	
Traffic Volume (vph)	20	490	20	10	475	15	35	30	20	5	5	20
Future Volume (vph)	20	490	20	10	475	15	35	30	20	5	5	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.94		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3515		1765	3521		1711	1674		1702	1586	
Flt Permitted	0.44	1.00		0.43	1.00		0.74	1.00		0.72	1.00	
Satd. Flow (perm)	816	3515		795	3521		1329	1674		1289	1586	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	23	570	23	12	552	17	41	35	23	6	6	23
RTOR Reduction (vph)	0	2	0	0	1	0	0	21	0	0	20	0
Lane Group Flow (vph)	23	591	0	12	568	0	41	37	0	6	9	0
Confl. Peds. (#/hr)			2	2					3	3		
Confl. Bikes (#/hr)			5			5			5			
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	78.3	78.3		78.3	78.3		9.7	9.7		11.2	11.2	
Effective Green, g (s)	78.3	78.3		78.3	78.3		9.7	9.7		11.2	11.2	
Actuated g/C Ratio	0.78	0.78		0.78	0.78		0.10	0.10		0.11	0.11	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		4.5	4.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		3.0	3.0	
Lane Grp Cap (vph)	638	2752		622	2756		128	162		144	177	
v/s Ratio Prot		c0.17			0.16			0.02			0.01	
v/s Ratio Perm	0.03			0.02			c0.03			0.00		
v/c Ratio	0.04	0.21		0.02	0.21		0.32	0.23		0.04	0.05	
Uniform Delay, d1	2.4	2.8		2.4	2.8		42.1	41.7		39.6	39.6	
Progression Factor	0.22	0.27		1.00	1.00		1.02	1.04		1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.1	0.2		3.0	1.5		0.1	0.1	
Delay (s)	0.6	0.9		2.4	3.0		46.1	44.7		39.7	39.8	
Level of Service	Α	Α		Α	Α		D	D		D	D	
Approach Delay (s)		0.9			3.0			45.3			39.8	
Approach LOS		Α			Α			D			D	
Intersection Summary												
HCM 2000 Control Delay			6.1	H	CM 2000	Level of	Service		Α			
HCM 2000 Volume to Capa	city ratio		0.23									
Actuated Cycle Length (s)	•		100.0	Sı	um of lost	time (s)			12.0			
Intersection Capacity Utiliza	ation		35.8%		U Level o				Α			
Analysis Period (min)			15									
c Critical Lane Group												

	۶	<b>→</b>	•	•	•	4	1	<b>†</b>	<b>/</b>	<b>/</b>	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			44			44			44	
Traffic Volume (vph)	5	155	5	25	200	20	10	70	50	10	15	5
Future Volume (vph)	5	155	5	25	200	20	10	70	50	10	15	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.95			0.98	
Flt Protected		1.00			0.99			1.00			0.98	
Satd. Flow (prot)		1849			1824			1759			1773	
FIt Permitted		0.99			0.96			0.98			0.87	
Satd. Flow (perm)		1834			1762			1723			1564	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	6	189	6	30	244	24	12	85	61	12	18	6
RTOR Reduction (vph)	0	2	0	0	5	0	0	49	0	0	5	0
Lane Group Flow (vph)	0	199	0	0	293	0	0	109	0	0	31	0
Confl. Peds. (#/hr)	5		25	25		5				13		7
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		29.5			29.5			9.5			9.5	
Effective Green, g (s)		29.5			29.5			9.5			9.5	
Actuated g/C Ratio		0.59			0.59			0.19			0.19	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		1082			1039			327			297	
v/s Ratio Prot												
v/s Ratio Perm		0.11			c0.17			c0.06			0.02	
v/c Ratio		0.18			0.28			0.33			0.10	
Uniform Delay, d1		4.7			5.0			17.5			16.7	
Progression Factor		1.00			0.36			1.00			1.07	
Incremental Delay, d2		0.4			0.7			1.3			0.3	
Delay (s)		5.1			2.5			18.8			18.2	
Level of Service		Α			Α			В			В	
Approach Delay (s)		5.1			2.5			18.8			18.2	
Approach LOS		Α			Α			В			В	
Intersection Summary												
HCM 2000 Control Delay			7.8	H	CM 2000	Level of	Service		Α			
HCM 2000 Volume to Capaci	ty ratio		0.29									
Actuated Cycle Length (s)			50.0		um of lost				11.0			
Intersection Capacity Utilization	on		40.1%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									
c Critical Lane Group												

	۶	<b>→</b>	$\rightarrow$	•	•	•	•	<b>†</b>	<b>/</b>	<b>&gt;</b>	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			र्स	7	, J	1}		¥	1}	
Traffic Volume (vph)	5	205	5	20	245	25	10	70	55	10	15	5
Future Volume (vph)	5	205	5	20	245	25	10	70	55	10	15	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	0.98		1.00	0.99	
Flpb, ped/bikes		1.00			1.00	1.00	0.98	1.00		0.99	1.00	
Frt		1.00			1.00	0.85	1.00	0.93		1.00	0.96	
Flt Protected		1.00			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1852			1854	1529	1677	1655		1688	1712	
Flt Permitted		0.99			0.97	1.00	0.74	1.00		0.67	1.00	
Satd. Flow (perm)		1840			1806	1529	1310	1655		1185	1712	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	6	230	6	22	275	28	11	79	62	11	17	6
RTOR Reduction (vph)	0	1	0	0	0	12	0	51	0	0	5	0
Lane Group Flow (vph)	0	241	0	0	297	16	11	90	0	11	18	0
Confl. Peds. (#/hr)	10		11	11		10	14		11	11		14
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Actuated Green, G (s)		28.8			28.8	28.8	9.2	9.2		9.2	9.2	
Effective Green, g (s)		28.8			28.8	28.8	9.2	9.2		9.2	9.2	
Actuated g/C Ratio		0.58			0.58	0.58	0.18	0.18		0.18	0.18	
Clearance Time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		1059			1040	880	241	304		218	315	
v/s Ratio Prot								c0.05			0.01	
v/s Ratio Perm		0.13			c0.16	0.01	0.01			0.01		
v/c Ratio		0.23			0.29	0.02	0.05	0.30		0.05	0.06	
Uniform Delay, d1		5.2			5.4	4.5	16.8	17.6		16.8	16.8	
Progression Factor		0.70			1.00	1.00	1.00	1.00		0.98	0.97	
Incremental Delay, d2		0.5			0.7	0.0	0.2	1.1		0.2	0.2	
Delay (s)		4.1			6.1	4.6	17.0	18.8		16.7	16.5	
Level of Service		Α			A	Α	В	В		В	В	
Approach Delay (s)		4.1			5.9			18.6			16.6	
Approach LOS		Α			Α			В			В	
Intersection Summary												
HCM 2000 Control Delay			8.4	H	CM 2000	Level of	Service		Α			
HCM 2000 Volume to Capaci	ty ratio		0.29									
Actuated Cycle Length (s)			50.0		um of lost	· ,			12.0			
Intersection Capacity Utilizati	on		52.9%	IC	U Level	of Service			Α			
Analysis Period (min)			15									

	۶	<b>→</b>	•	•	+	•	•	†	<i>&gt;</i>	<b>\</b>	<b>↓</b>	✓
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4	7		4			4			4	
Traffic Volume (veh/h)	45	50	5	5	15	10	5	80	5	30	5	20
Future Volume (Veh/h)	45	50	5	5	15	10	5	80	5	30	5	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	54	60	6	6	18	12	6	96	6	36	6	24
Pedestrians		1			1							
Lane Width (ft)		12.0			12.0							
Walking Speed (ft/s)		3.5			3.5							
Percent Blockage		0			0							
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											309	
pX, platoon unblocked												
vC, conflicting volume	223	206	19	235	215	100	31			103		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	223	206	19	235	215	100	31			103		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	91	99	99	97	99	100			98		
cM capacity (veh/h)	692	670	1058	651	662	955	1580			1487		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	120	36	108	66								
Volume Left	54	6	6	36								
Volume Right	6	12	6	24								
cSH	716	735	1580	1487								
Volume to Capacity	0.17	0.05	0.00	0.02								
Queue Length 95th (ft)	15	4	0	2								
Control Delay (s)	11.2	10.1	0.4	4.2								
Lane LOS	В	В	Α	Α								
Approach Delay (s)	11.2	10.1	0.4	4.2								
Approach LOS	В	В										
Intersection Summary												
Average Delay			6.2									
Intersection Capacity Utilizat	ion		28.4%	IC	U Level	of Service			Α			
Analysis Period (min)			15			2220			, ,			
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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	ሻ	7		4	1>	
Traffic Volume (veh/h)	50	35	25	85	25	15
Future Volume (Veh/h)	50	35	25	85	25	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	58	41	29	99	29	17
Pedestrians	15			3		
Lane Width (ft)	12.0			11.0		
Walking Speed (ft/s)	3.5			3.5		
Percent Blockage	1			0		
Right turn flare (veh)		4				
Median type				None	TWLTL	
Median storage veh)					2	
Upstream signal (ft)					143	
pX, platoon unblocked						
vC, conflicting volume	210	56	61			
vC1, stage 1 conf vol	52					
vC2, stage 2 conf vol	157					
vCu, unblocked vol	210	56	61			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4	<u> </u>				
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	96	98			
cM capacity (veh/h)	820	994	1520			
			SB 1			
Direction, Lane # Volume Total	EB 1 99	NB 1 128	46			
Volume Left	58	29	0			
	41	29 0	17			
Volume Right						
cSH Valume to Conseits	1400	1520	1700			
Volume to Capacity	0.07	0.02	0.03			
Queue Length 95th (ft)	6	1	0			
Control Delay (s)	9.3	1.8	0.0			
Lane LOS	A	A	0.0			
Approach Delay (s)	9.3	1.8	0.0			
Approach LOS	Α					
Intersection Summary						
Average Delay			4.2			
Intersection Capacity Utiliza	ation		23.5%	10	CU Level o	f Service
Analysis Period (min)			15			

## Proposed PM Conditions – Alternative 3-7

	<b>→</b>	•	•	<b>←</b>	•	<i>&gt;</i>
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	<u>183</u>	LDIX	VVDL	4	NDL	TIDIX
Traffic Volume (veh/h)	20	20	20	25	25	30
Future Volume (Veh/h)	20	20	20	25	25	30
Sign Control	Free	20	20	Free	Stop	50
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	24	24	24	30	30	36
Pedestrians	27	27	27	50	30	30
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)	TAOTIC			None		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			48		114	36
vC1, stage 1 conf vol			70		117	30
vC2, stage 2 conf vol						
vCu, unblocked vol			48		114	36
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)			7.1		0.7	0.2
tF (s)			2.2		3.5	3.3
p0 queue free %			98		97	97
cM capacity (veh/h)			1559		869	1037
						1007
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	48	54	30	36		
Volume Left	0	24	30	0		
Volume Right	24	0	0	36		
cSH	1700	1559	869	1037		
Volume to Capacity	0.03	0.02	0.03	0.03		
Queue Length 95th (ft)	0	1	3	3		
Control Delay (s)	0.0	3.3	9.3	8.6		
Lane LOS		Α	Α	Α		
Approach Delay (s)	0.0	3.3	8.9			
Approach LOS			Α			
Intersection Summary						
Average Delay			4.6			
Intersection Capacity Utiliza	ation		19.1%	IC	U Level o	of Service
Analysis Period (min)			15			

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	Α.	
Traffic Volume (veh/h)	15	20	0	30	65	0
Future Volume (Veh/h)	15	20	0	30	65	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	17	23	0.07	34	75	0
Pedestrians	.,			<b>0</b> 1	, ,	
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)				INOHE	INOLIC	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	109	75	75			
vC1, stage 1 conf vol	109	73	73			
vC2, stage 2 conf vol						
vCu, unblocked vol	109	75	75			
tC, single (s)	6.4	6.2	4.1			
	0.4	0.2	4.1			
tC, 2 stage (s) tF (s)	3.5	3.3	2.2			
	98	98	100			
p0 queue free %			1524			
cM capacity (veh/h)	888	986				
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	40	34	75			
Volume Left	17	0	0			
Volume Right	23	0	0			
cSH	942	1700	1700			
Volume to Capacity	0.04	0.02	0.04			
Queue Length 95th (ft)	3	0	0			
Control Delay (s)	9.0	0.0	0.0			
Lane LOS	Α					
Approach Delay (s)	9.0	0.0	0.0			
Approach LOS	Α					
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utiliza	ation		13.4%	IC	CU Level o	of Service
Analysis Period (min)			15			
raidiffold Foliod (IIIII)			10			

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	1>	
Traffic Volume (veh/h)	5	5	5	35	75	20
Future Volume (Veh/h)	5	5	5	35	75	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	6	6	6	44	94	25
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	164	108	120			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	164	108	120			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	100			
cM capacity (veh/h)	823	946	1466			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	12	50	119			
Volume Left	6	6	0			
Volume Right	6	0	25			
cSH	880	1466	1700			
Volume to Capacity	0.01	0.00	0.07			
Queue Length 95th (ft)	1	0.00	0.07			
Control Delay (s)	9.1	0.9	0.0			
Lane LOS	A	A	0.0			
Approach Delay (s)	9.1	0.9	0.0			
Approach LOS	A	0.0	0.0			
	71					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utiliza	tion		16.1%	IC	U Level o	f Service
Analysis Period (min)			15			

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4		¥	- 1>			4			4	
Sign Control		Stop		_	Stop			Stop			Stop	
Traffic Volume (vph)	10	50	25	25	20	10	10	20	5	10	60	5
Future Volume (vph)	10	50	25	25	20	10	10	20	5	10	60	5
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	13	63	32	32	25	13	13	25	6	13	76	6
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total (vph)	108	32	38	44	95							
Volume Left (vph)	13	32	0	13	13							
Volume Right (vph)	32	0	13	6	6							
Hadj (s)	-0.12	0.53	-0.21	0.01	0.02							
Departure Headway (s)	4.3	5.4	4.7	4.4	4.4							
Degree Utilization, x	0.13	0.05	0.05	0.05	0.12							
Capacity (veh/h)	809	633	733	769	777							
Control Delay (s)	7.9	7.5	6.7	7.7	8.0							
Approach Delay (s)	7.9	7.1		7.7	8.0							
Approach LOS	Α	Α		Α	Α							
Intersection Summary												
Delay			7.7									
Level of Service			Α									
Intersection Capacity Utiliza	ation		24.1%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		414			41∌		J.	- 1>		7	4	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	20	40	15	25	25	5	15	30	10	5	40	5
Future Volume (vph)	20	40	15	25	25	5	15	30	10	5	40	5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	21	41	15	26	26	5	15	31	10	5	41	5
Direction, Lane #	EB 1	EB2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2				
Volume Total (vph)	42	36	39	18	15	41	5	46				
Volume Left (vph)	21	0	26	0	15	0	5	0				
Volume Right (vph)	0	15	0	5	0	10	0	5				
Hadj (s)	0.29	-0.26	0.37	-0.16	0.53	-0.14	0.53	-0.04				
Departure Headway (s)	5.1	4.5	5.2	4.7	5.4	4.7	5.4	4.8				
Degree Utilization, x	0.06	0.04	0.06	0.02	0.02	0.05	0.01	0.06				
Capacity (veh/h)	690	766	669	746	644	734	640	719				
Control Delay (s)	7.2	6.6	7.3	6.6	7.3	6.8	7.2	6.9				
Approach Delay (s)	6.9		7.1		6.9		7.0					
Approach LOS	Α		Α		Α		Α					
Intersection Summary												
Delay			7.0									
Level of Service			Α									
Intersection Capacity Utiliza	tion		23.7%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>ተ</b> ኈ		7	<b>∱</b> ⊅			4			4	
Traffic Volume (vph)	10	415	20	20	550	10	30	25	20	20	50	60
Future Volume (vph)	10	415	20	20	550	10	30	25	20	20	50	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			4.5			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			0.99			1.00	
Frt	1.00	0.99		1.00	1.00			0.96			0.94	
Fit Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot) Flt Permitted	1770 0.40	3510 1.00		1759 0.47	3529			1744 0.75			1706 0.95	
Satd. Flow (perm)	753	3510		863	1.00 3529			1335			1634	
			0.00			0.00	0.00		0.00	0.00		0.00
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	12 0	483 2	23	23	640 1	12 0	35 0	29 17	23	23	58 41	70
RTOR Reduction (vph)	12	504	0	23	651	0	0	70	0	0	110	0
Lane Group Flow (vph) Confl. Peds. (#/hr)	12	304	4	4	001	U	12	70	3	3	110	12
	Perm	NA	4	Perm	NA		Perm	NA	J	Perm	NA	12
Turn Type Protected Phases	Pelili	1NA 4		Perm	NA 8		Perm	NA 2		Perm	NA 6	
Permitted Phases	4	4		8	0		2	2		6	U	
Actuated Green, G (s)	75.1	75.1		75.1	75.1			14.4		U	13.9	
Effective Green, g (s)	75.1	75.1		75.1	75.1			14.4			13.9	
Actuated g/C Ratio	0.75	0.75		0.75	0.75			0.14			0.14	
Clearance Time (s)	6.0	6.0		6.0	6.0			4.5			5.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			5.0	
Lane Grp Cap (vph)	565	2636		648	2650			192			227	
v/s Ratio Prot	000	0.14		0-10	c0.18			102			221	
v/s Ratio Perm	0.02	V.11		0.03	00.10			0.05			c0.07	
v/c Ratio	0.02	0.19		0.04	0.25			0.36			0.48	
Uniform Delay, d1	3.2	3.6		3.2	3.8			38.7			39.7	
Progression Factor	1.00	1.00		0.81	0.79			1.06			1.00	
Incremental Delay, d2	0.1	0.2		0.1	0.2			1.2			3.4	
Delay (s)	3.2	3.8		2.7	3.2			42.2			43.1	
Level of Service	Α	Α		Α	Α			D			D	
Approach Delay (s)		3.8			3.2			42.2			43.1	
Approach LOS		Α			Α			D			D	
Intersection Summary												
HCM 2000 Control Delay			10.0	Н	CM 2000	Level of S	Service		Α			
HCM 2000 Volume to Capac	city ratio		0.28									
Actuated Cycle Length (s)			100.0		um of lost				11.0			
Intersection Capacity Utilizat	tion		36.1%	IC	CU Level o	t Service			Α			
Analysis Period (min)			15									
c Critical Lane Group												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	ተኈ		ሻ	<b>∱</b> ⊅		ሻ	₽		ሻ	₽	
Traffic Volume (vph)	10	430	10	10	505	10	40	30	25	10	40	25
Future Volume (vph)	10	430	10	10	505	10	40	30	25	10	40	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.93		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3527		1770	3529		1705	1678		1711	1688	
FIt Permitted	0.42	1.00		0.46	1.00		0.71	1.00		0.72	1.00	
Satd. Flow (perm)	787	3527		858	3529		1270	1678		1288	1688	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	12	506	12	12	594	12	47	35	29	12	47	29
RTOR Reduction (vph)	0	1	0	0	1	0	0	26	0	0	26	0
Lane Group Flow (vph)	12	517	0	12	605	0	47	38	0	12	50	0
Confl. Peds. (#/hr)							2					2
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8		_	2		_	6	
Permitted Phases	4	=0.0		8	=0.0		2	40.0		6		
Actuated Green, G (s)	78.0	78.0		78.0	78.0		10.0	10.0		11.5	11.5	
Effective Green, g (s)	78.0	78.0		78.0	78.0		10.0	10.0		11.5	11.5	
Actuated g/C Ratio	0.78	0.78		0.78	0.78		0.10	0.10		0.12	0.12	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		4.5	4.5	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		3.0	3.0	
Lane Grp Cap (vph)	613	2751		669	2752		127	167		148	194	
v/s Ratio Prot	0.00	0.15		0.04	c0.17		0.04	0.02		0.04	0.03	
v/s Ratio Perm	0.02	0.40		0.01	0.00		c0.04	0.00		0.01	0.00	
v/c Ratio	0.02	0.19		0.02	0.22		0.37	0.23		0.08	0.26	
Uniform Delay, d1	2.5	2.8		2.5	2.9		42.1	41.4		39.5	40.4	
Progression Factor	0.32	0.34		1.00	1.00		0.78	0.66		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.0	0.2		3.7	1.4		0.2	0.7	
Delay (s)	0.8	1.1		2.5	3.1		36.5	28.7		39.8	41.1	
Level of Service	Α	A		Α	A 3.1		D	C		D	D	
Approach LOS		1.1						32.0			40.9	
Approach LOS		Α			Α			С			D	
Intersection Summary												
HCM 2000 Control Delay			7.2	H	CM 2000	Level of	Service		Α			
HCM 2000 Volume to Capa	icity ratio		0.24	-					40.0			
Actuated Cycle Length (s)			100.0		um of lost				12.0			
Intersection Capacity Utiliza	ation		33.2%	IC	CU Level of	ot Service			Α			
Analysis Period (min)			15									

c Critical Lane Group

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4			4	
Traffic Volume (vph)	15	315	25	30	290	15	10	45	45	30	60	15
Future Volume (vph)	15	315	25	30	290	15	10	45	45	30	60	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			0.99	
Frt		0.99			0.99			0.94			0.98	
Flt Protected		1.00			1.00			1.00			0.99	
Satd. Flow (prot)		1825			1829			1741			1756	
FIt Permitted		0.98			0.94			0.97			0.88	
Satd. Flow (perm)		1790			1733			1694			1559	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	17	358	28	34	330	17	11	51	51	34	68	17
RTOR Reduction (vph)	0	2	0	0	1	0	0	35	0	0	7	0
Lane Group Flow (vph)	0	401	0	0	380	0	0	78	0	0	112	0
Confl. Peds. (#/hr)	17		32	32		17				17		29
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		73.9			73.9			15.1			15.1	
Effective Green, g (s)		73.9			73.9			15.1			15.1	
Actuated g/C Ratio		0.74			0.74			0.15			0.15	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		1322			1280			255			235	
v/s Ratio Prot												
v/s Ratio Perm		c0.22			0.22			0.05			c0.07	
v/c Ratio		0.30			0.30			0.31			0.48	
Uniform Delay, d1		4.4			4.4			37.8			38.8	
Progression Factor		1.00			0.52			1.00			0.84	
Incremental Delay, d2		0.6			0.6			1.4			3.2	
Delay (s)		5.0			2.9			39.2			35.6	
Level of Service		Α			Α			D			D	
Approach Delay (s)		5.0			2.9			39.2			35.6	
Approach LOS		Α			Α			D			D	
Intersection Summary												
HCM 2000 Control Delay			11.6	H	CM 2000	Level of	Service		В			
HCM 2000 Volume to Capacity	y ratio		0.33									
Actuated Cycle Length (s)			100.0		um of lost				11.0			
Intersection Capacity Utilizatio	n		50.6%	IC	U Level o	of Service	!		Α			
Analysis Period (min)			15									
c Critical Lane Group												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			र्स	7	ሻ	1}		ሻ	1}	
Traffic Volume (vph)	15	375	10	25	285	20	20	50	85	20	30	15
Future Volume (vph)	15	375	10	25	285	20	20	50	85	20	30	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	0.95	1.00	0.97		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	0.96	1.00		1.00	1.00	
Frt		1.00			1.00	0.85	1.00	0.91		1.00	0.95	
Flt Protected		1.00			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1849			1853	1497	1641	1587		1711	1709	
Flt Permitted		0.98			0.94	1.00	0.72	1.00		0.52	1.00	
Satd. Flow (perm)		1816			1751	1497	1244	1587		931	1709	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	19	463	12	31	352	25	25	62	105	25	37	19
RTOR Reduction (vph)	0	1	0	0	0	6	0	71	0	0	16	0
Lane Group Flow (vph)	0	493	0	0	383	19	25	96	0	25	40	0
Confl. Peds. (#/hr)	12		10	10		12	15		8			
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	•	2		•	2	•		4			4	
Permitted Phases	2	74.0		2	74.0	2	4	40.7		4	40.7	
Actuated Green, G (s)		74.3			74.3	74.3	13.7	13.7		13.7	13.7	
Effective Green, g (s)		74.3			74.3	74.3	13.7	13.7		13.7	13.7	
Actuated g/C Ratio		0.74			0.74	0.74	0.14	0.14		0.14	0.14	
Clearance Time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		1349			1300	1112	170	217		127	234	
v/s Ratio Prot		-0.07			0.00	0.04	0.00	c0.06		0.00	0.02	
v/s Ratio Perm v/c Ratio		c0.27 0.37			0.22	0.01 0.02	0.02	0.44		0.03	0.17	
		4.5			0.29 4.2	3.3	0.15 38.0	39.6		0.20 38.3	38.1	
Uniform Delay, d1		0.74			1.00	1.00	1.00	1.00		1.49	1.64	
Progression Factor Incremental Delay, d2		0.74			0.6	0.0	0.8	3.0		1.49	0.7	
Delay (s)		4.1			4.8	3.4	38.8	42.7		58.6	63.1	
Level of Service		4.1 A			4.0 A	A	30.0 D	42.7 D		50.0 E	65.1 E	
Approach Delay (s)		4.1			4.7		U	42.2		_	61.7	
Approach LOS		Α.			4.7 A			72.2 D			E	
••		^						D				
Intersection Summary									_			
HCM 2000 Control Delay			14.5	H	CM 2000	Level of	Service		В			
HCM 2000 Volume to Capac	ity ratio		0.38						40.0			
Actuated Cycle Length (s) 100.0 Sum of lost time (s) 12.0												
Intersection Capacity Utilization 60.1% ICU Level of Service B												
Analysis Period (min)			15									

c Critical Lane Group

	۶	<b>→</b>	•	•	+	*	1	<b>†</b>	<i>&gt;</i>	<b>/</b>	<b>↓</b>	-√
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		स	7		4			4			4	
Traffic Volume (veh/h)	55	60	35	20	35	15	5	35	15	35	10	95
Future Volume (Veh/h)	55	60	35	20	35	15	5	35	15	35	10	95
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	74	81	47	27	47	20	7	47	20	47	14	128
Pedestrians		4			2			2			2	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			0	
Right turn flare (veh)			2									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											309	
pX, platoon unblocked												
vC, conflicting volume	292	259	84	311	313	61	146			69		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	292	259	84	311	313	61	146			69		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF(s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	87	87	95	95	92	98	100			97		
cM capacity (veh/h)	584	619	970	530	578	1000	1431			1529		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	202	94	74	189								
Volume Left	74	27	7	47								
Volume Right	47	20	20	128								
cSH	785	617	1431	1529								
Volume to Capacity	0.26	0.15	0.00	0.03								
Queue Length 95th (ft)	26	13	0	2								
Control Delay (s)	12.1	11.9	0.7	2.0								
Lane LOS	В	В	Α	Α								
Approach Delay (s)	12.1	11.9	0.7	2.0								
Approach LOS	В	В										
Intersection Summary												
Average Delay			7.1									
Intersection Capacity Utilization	on		32.7%	IC	U Level	of Service			Α			
Analysis Period (min)			15									
,												

	•	*	•	<b>†</b>	<b>↓</b>	4
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	*	7		र्स	7>	
Traffic Volume (veh/h)	55	50	40	95	40	30
Future Volume (Veh/h)	55	50	40	95	40	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	69	63	50	119	50	38
Pedestrians	27			4	1	
Lane Width (ft)	12.0			11.0	11.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	3			0	0	
Right turn flare (veh)		4				
Median type				None	TWLTL	
Median storage veh)					2	
Upstream signal (ft)					143	
pX, platoon unblocked						
vC, conflicting volume	316	100	115			
vC1, stage 1 conf vol	96					
vC2, stage 2 conf vol	220					
vCu, unblocked vol	316	100	115			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	93	97			
cM capacity (veh/h)	744	928	1436			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	132	169	88			
Volume Left	69	50	0			
Volume Right	63	0	38			
cSH	1423	1436	1700			
Volume to Capacity	0.09	0.03	0.05			
Queue Length 95th (ft)	8	3	0.00			
Control Delay (s)	9.8	2.4	0.0			
Lane LOS	A	Α.Τ	0.0			
Approach Delay (s)	9.8	2.4	0.0			
Approach LOS	Α		0.0			
Intersection Summary	,					
			1.4			
Average Delay	-4:		4.4	1.	OLL I!	4 Complete
Intersection Capacity Utiliza	ation		25.1%	Į!	CU Level o	of Service
Analysis Period (min)			15			

## Crash Data

FID	OBJECTID	CrashID	Report_No	Crash_Date	Crash_Time	Day_of_Wee	County	City
1645	78477	626770	201602210	2/19/2016 0:00	1526	Friday	NATRONA	CASPER
1646	78482	626776	201602245	2/19/2016 0:00	2257	Friday	NATRONA	CASPER
1647	78493	627158	201602418	2/24/2016 0:00	1345	Wednesday	NATRONA	CASPER
1649	78585	629387	201603246	3/19/2016 0:00	1239	Saturday	NATRONA	CASPER
1655	78668	630570	201603752	3/30/2016 0:00	918	Wednesday	NATRONA	CASPER
1662	78760	632487	201604352	4/15/2016 0:00	1434	Friday	NATRONA	CASPER
1670	78902	634803	201605326	5/11/2016 0:00	1005	Wednesday	NATRONA	CASPER
1677	79006	636495	201606196	6/2/2016 0:00	1300	Thursday	NATRONA	CASPER
1679	79047	637181	201606551	6/10/2016 0:00	1047	Friday	NATRONA	CASPER
1681	79096	638149	201607081	6/14/2016 0:00	1700	Tuesday	NATRONA	CASPER
1684	79106	638589	201607169	6/24/2016 0:00	1450	Friday	NATRONA	CASPER
1692	79227	641157	201608329	7/18/2016 0:00	1336	Monday	NATRONA	CASPER
1704	79524	648468	201611361	9/21/2016 0:00	1334	Wednesday	NATRONA	CASPER
1705	79526	648462	201611363	9/21/2016 0:00	950	Wednesday	NATRONA	CASPER
1707	79565	649230	201611769	9/30/2016 0:00	804	Friday	NATRONA	CASPER
1712	79619	650085	201612195	10/11/2016 0:00	1227	Tuesday	NATRONA	CASPER
1719	79772	653358	201613612	11/11/2016 0:00	1030	Friday	NATRONA	CASPER
1720	79811	654324	201614024	11/18/2016 0:00	1306	Friday	NATRONA	CASPER
1724	79840	655360	201614498	11/22/2016 0:00	1730	Tuesday	NATRONA	CASPER
1737	80222	659136	201616244	12/20/2016 0:00	1027	Tuesday	NATRONA	CASPER
1738	80223	659136	201616244	12/20/2016 0:00	1027	Tuesday	NATRONA	CASPER
1741	80256	660334	201616445	12/28/2016 0:00	2053	Wednesday	NATRONA	CASPER
1750	80450	661437	201700459	1/3/2017 0:00	1140	Tuesday	NATRONA	CASPER
1752	80507	664345	201700933	1/21/2017 0:00	1945	Saturday	NATRONA	CASPER
1756	80716	667396	201702236	2/7/2017 0:00	1430	Tuesday	NATRONA	CASPER
1757	80717	667396	201702236	2/7/2017 0:00	1430	Tuesday	NATRONA	CASPER
1758	80756	668441	201702569	2/21/2017 0:00	1320	Tuesday	NATRONA	CASPER
1759	80758	668258	201702605	2/17/2017 0:00	1149	Friday	NATRONA	CASPER
1768	81022	670736	201704000	3/24/2017 0:00	1426	Friday	NATRONA	CASPER
1770	81035	670926	201704099	3/27/2017 0:00	1556	Monday	NATRONA	CASPER
1771	81046	704585	201704203	3/31/2017 0:00	848	Friday	NATRONA	CASPER
1772	81047	704585	201704203	3/31/2017 0:00	848	Friday	NATRONA	CASPER
1775	81071	670126	201704353	3/10/2017 0:00	1030	Friday	NATRONA	CASPER

1777	81081	671624	201704489	4/8/2017 0:00	1514	Saturday	NATRONA	CASPER
1781	81167	672787	201705278	4/27/2017 0:00	1612	Thursday	NATRONA	CASPER
1785	81229	674193	201705744	5/12/2017 0:00	1825	Friday	NATRONA	CASPER
1788	81303	675420	201706192	5/25/2017 0:00	1013	Thursday	NATRONA	CASPER
1789	81308	684490	201706231	5/20/2017 0:00	1614	Saturday	NATRONA	CASPER
1790	81324	675377	201706337	5/23/2017 0:00	430	Tuesday	NATRONA	CASPER
1793	81336	675789	201706476	6/2/2017 0:00	1203	Friday	NATRONA	CASPER
1799	81437	679066	201707445	6/26/2017 0:00	1330	Monday	NATRONA	CASPER
1808	81595	681998	201709160	7/28/2017 0:00	924	Friday	NATRONA	CASPER
1813	81700	682282	201709893	8/20/2017 0:00	2047	Sunday	NATRONA	CASPER
1822	81828	687639	201711124	9/14/2017 0:00	1545	Thursday	NATRONA	CASPER
1831	82019	689793	201712405	10/11/2017 0:00	1602	Wednesday	NATRONA	CASPER
1835	82181	692516	201713614	11/6/2017 0:00	1708	Monday	NATRONA	CASPER
1836	82182	692516	201713614	11/6/2017 0:00	1708	Monday	NATRONA	CASPER
1839	82209	692590	201713740	11/6/2017 0:00	1759	Monday	NATRONA	CASPER
1840	82210	692590	201713740	11/6/2017 0:00	1759	Monday	NATRONA	CASPER
1841	82211	692590	201713740	11/6/2017 0:00	1759	Monday	NATRONA	CASPER
1842	82212	692590	201713740	11/6/2017 0:00	1759	Monday	NATRONA	CASPER
1843	82220	692640	201713786	11/8/2017 0:00	1334	Wednesday	NATRONA	CASPER
1852	82693	699280	201800008	1/1/2018 0:00	1727	Monday	NATRONA	CASPER
1856	82847	702871	201800802	1/23/2018 0:00	1616	Tuesday	NATRONA	CASPER
1863	83024	706545	201801948	2/21/2018 0:00	1035	Wednesday	NATRONA	CASPER
1864	83025	706545	201801948	2/21/2018 0:00	1035	Wednesday	NATRONA	CASPER
1866	83061	720252	201802018	2/21/2018 0:00	1313	Wednesday	NATRONA	CASPER
1867	83062	720252	201802018	2/21/2018 0:00	1313	Wednesday	NATRONA	CASPER
1870	83158	732748	201802332	2/20/2018 0:00	900	Tuesday	NATRONA	CASPER
1881	83302	707901	201803114	3/19/2018 0:00	1036	Monday	NATRONA	CASPER
1883	83309	708024	201803181	3/22/2018 0:00	723	Thursday	NATRONA	CASPER
1889	83420	709053	201803923	4/11/2018 0:00	1703	Wednesday	NATRONA	CASPER
1894	83539	710484	201804732	5/5/2018 0:00	951	Saturday	NATRONA	CASPER
1906	83768	713286	201806628	6/21/2018 0:00	1913	Thursday	NATRONA	CASPER
1910	84042	718943	201808747	8/3/2018 0:00	1742	Friday	NATRONA	CASPER
1922	84325	723248	201811055	9/26/2018 0:00	940	Wednesday	NATRONA	CASPER
1923	84333	723499	201811127	9/28/2018 0:00	946	Friday	NATRONA	CASPER

1928	84627	729188	201813564	11/15/2018 0:00	1356	Thursday	NATRONA	CASPER
1930	84667	729728	201813813	11/19/2018 0:00	1450	Monday	NATRONA	CASPER
1933	84845	733420	201815312	12/13/2018 0:00	1650	Thursday	NATRONA	CASPER
1947	85323	741857	201901816	2/7/2019 0:00	1446	Thursday	NATRONA	CASPER
1952	85377	741669	201902200	2/16/2019 0:00	1307	Saturday	NATRONA	CASPER
1956	85479	742854	201902847	2/28/2019 0:00	1655	Thursday	NATRONA	CASPER
1957	85486	743004	201902887	3/2/2019 0:00	1125	Saturday	NATRONA	CASPER
1971	85655	745755	201903895	2/7/2019 0:00	1340	Thursday	NATRONA	CASPER
1972	85657	745311	201903901	3/22/2019 0:00	1330	Friday	NATRONA	CASPER
1974	85668	745537	201903988	3/14/2019 0:00	1053	Thursday	NATRONA	CASPER
1986	85923	749944	201905761	5/16/2019 0:00	2008	Thursday	NATRONA	CASPER
2013	86324	754938	201908232	7/9/2019 0:00	1147	Tuesday	NATRONA	CASPER
2019	86454	758770	201909417	8/3/2019 0:00	1813	Saturday	NATRONA	CASPER
2025	86546	763679	201910101	8/22/2019 0:00	2035	Thursday	NATRONA	CASPER
2029	86773	762939	201911780	9/27/2019 0:00	1849	Friday	NATRONA	CASPER
2030	86811	765728	201912002	10/7/2019 0:00	1209	Monday	NATRONA	CASPER
2041	87148	786528	201913998	11/5/2019 0:00	1533	Tuesday	NATRONA	CASPER
2042	87184	769088	201914107	11/12/2019 0:00	731	Tuesday	NATRONA	CASPER
2046	87266	771797	201914784	11/19/2019 0:00	1246	Tuesday	NATRONA	CASPER
2055	87712	777121	201917068	12/14/2019 0:00	1225	Saturday	NATRONA	CASPER
2056	87737	778788	202000035	1/3/2020 0:00	1047	Friday	NATRONA	CASPER
2058	87794	788921	202000517	1/11/2020 0:00	1747	Saturday	NATRONA	CASPER
2060	87835	780881	202000867	1/21/2020 0:00	1430	Tuesday	NATRONA	CASPER
2063	87906	786751	202001162	1/27/2020 0:00	1412	Monday	NATRONA	CASPER
2064	87921	783319	202001198	1/30/2020 0:00	1643	Thursday	NATRONA	CASPER
2067	87939	784834	202001415	2/5/2020 0:00	929	Wednesday	NATRONA	CASPER
2068	87940	784834	202001415	2/5/2020 0:00	929	Wednesday	NATRONA	CASPER
2069	87950	784965	202001436	2/5/2020 0:00	1638	Wednesday	NATRONA	CASPER
2070	87951	784965	202001436	2/5/2020 0:00	1638	Wednesday	NATRONA	CASPER
2079	88074	786060	202001903	2/13/2020 0:00	1319	Thursday	NATRONA	CASPER
2081	88137	785836	202002074	2/12/2020 0:00	1135	Wednesday	NATRONA	CASPER
2082	88138	785836	202002074	2/12/2020 0:00		Wednesday	NATRONA	CASPER
2083	88139	785836	202002074	2/12/2020 0:00		Wednesday	NATRONA	CASPER
2084	88140	785836	202002074	2/12/2020 0:00	1135	Wednesday	NATRONA	CASPER

2089	88271	787342	202002663	2/28/2020 0:00	1013	Friday	NATRONA	CASPER
2096	88324	787905	202002913	3/5/2020 0:00	1432	Thursday	NATRONA	CASPER
2102	88401	788480	202003263	3/14/2020 0:00	1721	Saturday	NATRONA	CASPER
2108	88585	794181	202004690	5/6/2020 0:00	809	Wednesday	NATRONA	CASPER
2111	88615	794772	202004886	5/15/2020 0:00	1753	Friday	NATRONA	CASPER
2113	88633	794903	202005017	5/17/2020 0:00	846	Sunday	NATRONA	CASPER
2120	88785	798545	202006275	6/26/2020 0:00	1250	Friday	NATRONA	CASPER
2122	88865	799939	202006853	7/10/2020 0:00	1513	Friday	NATRONA	CASPER
2123	88878	799917	202007016	7/13/2020 0:00	1153	Monday	NATRONA	CASPER
2125	88960	801528	202007722	7/31/2020 0:00	1130	Friday	NATRONA	CASPER
2127	88999	802300	202008062	8/7/2020 0:00	1923	Friday	NATRONA	CASPER
2136	89286	807971	202010205	9/22/2020 0:00	958	Tuesday	NATRONA	CASPER
2138	89342	809135	202010613	10/5/2020 0:00	1129	Monday	NATRONA	CASPER

Crash_Occu	Milepost	At_Interse	Distance_F	Distance_M	Latitude	Longitude	FVehicle	FDrivers
S WOLCOTT ST	0	E 1ST ST			42.85009	-106.32376	2	2
E 2ND ST	0		35	Feet	42.84872	-106.32369	2	1
MIDWEST AVE	0		75	Feet	42.84782	-106.32372	2	1
S DURBIN ST	0		75	Feet	42.8485	-106.32234	2	2
E 2ND ST	0	S DURBIN ST			42.84872	-106.32233	2	2
S WOLCOTT ST	0	E 2ND ST	10	Feet	42.84873	-106.32374	1	1
S DURBIN ST	0	E 1ST ST			42.85009	-106.32235	1	1
E 2ND ST	0		30	Feet	42.84872	-106.32385	2	2
N WOLCOTT ST	0		200	Feet	42.84949	-106.32377	1	1
E 1ST ST	1.63	N WOLCOTT ST			42.85009	-106.32376	2	2
E 2ND ST	0		50	Feet	42.84871	-106.32349	2	2
N BEECH ST	0		100	Feet	42.85177	-106.32232	2	1
S DURBIN ST	99.9	E 2ND ST			42.84858	-106.32233	2	2
E 1ST ST	1.56	S DURBIN ST			42.85002	-106.32226	2	2
E 2ND ST	100.06		300	Feet	42.84875	-106.32399	2	2
E 2ND ST	100.13	S DURBIN ST	50	Feet	42.8487	-106.32261	2	2
MIDWEST AVE	100.07		50	Feet	42.84779	-106.32405	2	1
N WOLCOTT ST	100.01	E 1ST ST	5	Feet	42.85022	-106.32384	2	2
E 2ND ST	100.15	S DURBIN ST	10	Feet	42.8487	-106.32233	3	2
S DURBIN ST	100	E 1ST ST			42.85007	-106.32235	2	2
S DURBIN ST	100	E 1ST ST			42.85007	-106.32235	2	2
E 1ST ST	1.63	N WOLCOTT ST			42.85008	-106.32375	2	2
E 1ST ST	1.63	S WOLCOTT ST			42.85008	-106.32387	2	2
E 1ST ST	1.55	S DURBIN ST			42.85013	-106.32215	2	2
S DURBIN ST	100	E 1ST ST			42.85004	-106.32236	2	2
S DURBIN ST	100	E 1ST ST			42.85004	-106.32236	2	2
S WOLCOTT ST	0.02		300	Feet	42.8496	-106.32378	2	2
E 2ND ST	100.05		100	Feet	42.8487	-106.32413	2	2
MIDWEST AVE	100.08	S WOLCOTT ST			42.84777	-106.32376	3	3
E 1ST ST	1.63	N WOLCOTT ST			42.8501	-106.32375	2	2
E 1ST ST	1.57	S DURBIN ST	62	Feet	42.85004	-106.32246	1	1
E 1ST ST	1.57	S DURBIN ST	62	Feet	42.85004	-106.32246	1	1
MIDWEST AVE	100.06		50	Feet	42.84777	-106.32406	2	1

E 2ND ST	100.1		100	Feet	42.84871	-106.32329	2	2
E 2ND ST	100.12			Feet	42.84871	-106.32293	2	2
E 1ST ST		N WOLCOTT ST	04	1000	42.85007	-106.32376	2	2
S WOLCOTT ST	0.04	N WOLCOTT ST			42.84892	-106.32378	2	2
S WOLCOTT ST	0.04		300	Feet	42.84991	-106.32379	2	1
S WOLCOTT ST		E 1ST ST	300	1000	42.85001	-106.32374	2	2
E 2ND ST		S WOLCOTT ST			42.84869	-106.32373	2	2
E 1ST ST		N WOLCOTT ST			42.8501	-106.32374	2	2
S WOLCOTT ST		E 2ND ST	25	Feet	42.84891	-106.32375	2	2
S WOLCOTT ST	0.04			Feet	42.84892	-106.32379	2	2
E 2ND ST	100.1			Feet	42.84871	-106.32332	2	2
E 1ST ST		N WOLCOTT ST	120	1000	42.85009	-106.32375	2	2
E 1ST ST		N WOLCOTT ST			42.85006	-106.32397	2	2
E 1ST ST		N WOLCOTT ST			42.85006	-106.32397	2	2
E 2ND ST		S WOLCOTT ST	100	Feet	42.84871	-106.32328	2	2
E 2ND ST		S WOLCOTT ST		Feet	42.84871	-106.32328	2	2
E 2ND ST		S WOLCOTT ST		Feet	42.84871	-106.32328	2	2
E 2ND ST		S WOLCOTT ST		Feet	42.84871	-106.32328	2	2
S WOLCOTT ST		E 2ND ST		Feet	42.84902	-106.32375	2	2
E 2ND ST	100.08		50	Feet	42.84873	-106.32359	2	2
E 2ND ST	100.13		50	Feet	42.84874	-106.32264	2	2
N WOLCOTT ST	100.13		100	Feet	42.85189	-106.32372	2	1
N WOLCOTT ST	100.13		100	Feet	42.85189	-106.32372	2	1
S WOLCOTT ST	0.03		100	Feet	42.849037	-106.323756	2	1
S WOLCOTT ST	0.03		100	Feet	42.849037	-106.323756	2	1
E 2ND ST	100.08	S WOLCOTT ST	100	Feet	42.848717	-106.323512	2	2
E 2ND ST	100.1		0	Feet	42.84871	-106.3233	2	2
E A ST	100.15	N DURBIN ST			42.85146	-106.32228	2	2
S DURBIN ST	99.89	E 2ND ST	50	Feet	42.84846	-106.32235	2	1
MIDWEST AVE	100.06	S WOLCOTT ST			42.84771	-106.32401	2	2
E 2ND ST	100.13		20	Feet	42.848703	-106.322611	2	2
S DURBIN ST	99.89		50	Feet	42.848488	-106.322342	2	2
E 2ND ST	100.09		90	Feet	42.848718	-106.323431	2	2
N DURBIN ST	100.04		225	Feet	42.850706	-106.322341	2	1

N WOLCOTT ST	100.01		42.850256	-106.323796	2	2
						2
N DURBIN ST		E 1ST ST   I 25 BU	42.85014	-106.322325	2	2
E 2ND ST	100.06		42.848692	-106.324046	2	1
N DURBIN ST		E A ST	42.851527	-106.322282	2	2
N DURBIN ST		E A ST	42.851445	-106.322369	2	2
N WOLCOTT ST	100.14		42.852045		2	2
S DURBIN ST	99.88		42.848387		2	2
S WOLCOTT ST   W		MIDWEST AVE	42.847932		1	1
E 2ND ST	100.06		42.848689	-106.324082	2	1
S WOLCOTT ST   W	0.08		42.847595	-106.323829	2	2
E 2ND ST	100.13		42.848788	-106.322625	2	1
S WOLCOTT ST   W	100	E 1ST ST   I 25 BU	42.850084	-106.323764	2	2
E 2ND ST	100.09		42.848699	-106.323353	2	2
S WOLCOTT ST   W	0	E 1ST ST   I 25 BU	42.850088	-106.323791	2	2
MIDWEST AVE	100.12		42.848163	-106.323069	2	1
S DURBIN ST	99.91	E 2ND ST	42.848744	-106.322331	3	2
E 2ND ST	100.06		42.848706	-106.324	2	1
E 1ST ST   I 25 BUS	1.57	S DURBIN ST	42.85015	-106.322471	2	2
S DURBIN ST	99.84		42.847772	-106.322335	1	1
S WOLCOTT ST   W	0.04	E 2ND ST	42.848742	-106.323796	2	2
S WOLCOTT ST   W	0	E 1ST ST   I 25 BU	42.850093	-106.323794	2	2
E 2ND ST	100.11		42.848665	-106.32299	2	1
N DURBIN ST	100.2		42.853051	-106.322345	2	1
E 1ST ST   I 25 BUS	1.56	S DURBIN ST	42.85008	-106.322329	2	2
E 1ST ST   I 25 BUS	1.62		42.850086	-106.323563	3	3
S DURBIN ST	99.98		42.849732	-106.322393	2	2
S DURBIN ST	99.98		42.849732	-106.322393	2	2
E 1ST ST   I 25 BUS	1.58		42.850048	-106.322849	2	2
E 1ST ST   I 25 BUS	1.58		42.850048	-106.322849	2	2
E 2ND ST	100.12		42.848734	-106.322819	2	1
N DURBIN ST	100.09		42.851425	-106.322308	2	2
N DURBIN ST	100.09		42.851425	-106.322308	2	2
N DURBIN ST	100.09		42.851425		2	2
N DURBIN ST	100.09		42.851425	-106.322308	2	2
		<del>-</del> ·	1 .2.552 125	========		

N DURBIN ST	100.1	E A ST		42.851504	-106.32236	2	2
E 1ST ST   I 25 BUS	1.54			42.850053	-106.322034	2	2
S WOLCOTT ST   W	0.05			42.848463	-106.323882	2	1
E 1ST ST   I 25 BUS	1.56			42.850162	-106.322337	2	2
S WOLCOTT ST   W	0.04	E 2ND ST		42.848703	-106.323777	2	2
E 2ND ST	100.12			42.848803	-106.322916	2	1
S WOLCOTT ST   W	0.04	E 2ND ST		42.848726	-106.323774	2	2
N DURBIN ST	100.03			42.850446	-106.322425	2	1
S DURBIN ST	99.91	E 2ND ST		42.848694	-106.322354	2	2
S WOLCOTT ST   W	0.04			42.848864	-106.323771	2	2
N DURBIN ST	100.01			42.850244	-106.322286	1	0
N WOLCOTT ST	100.23			42.853414	-106.323784	1	1
S DURBIN ST	99.89			42.848506	-106.322343	2	2

FPersons	FMotoris	FNonMoto	FPedestr	FPedacyc	FInjured	FKilled	Hit_Run	First_Harm
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
1	1	0	0	0	0	0	Υ	Parked Motor Vehicle
1	1	0	0	0	0	0	Υ	Parked Motor Vehicle
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Other Fixed Object
2	1	1	1	0	1	0	N	Pedestrian
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
6	5	1	1	0	1	0	N	Pedestrian
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
6	6	0	0	0	0	0	N	Motor Vehicle in Transpo
1	1	0	0	0	0	0	Υ	Parked Motor Vehicle
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
1	1	0	0	0	0	0	Υ	Parked Motor Vehicle
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	1	0	Υ	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
5	5	0	0	0	5	0	N	Motor Vehicle in Transpo
4	4	0	0	0	0	0	N	Motor Vehicle in Transpo
4	4	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
3	3	0	0	0	0	0	N	Motor Vehicle in Transpo
4	4	0	0	0	2	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	1	1	1	0	1	0	N	Pedestrian
2	1	1	1	0	1	0	N	Pedestrian
2	2	0	0	0	0	0	N	Parked Motor Vehicle

2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
3	3	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
3	3	0	0	0	0	0	N	Motor Vehicle in Transpo
1	1	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	1	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
5	5	0	0	0	0	0	N	Motor Vehicle in Transpo
4	4	0	0	0	0	0	N	Motor Vehicle in Transpo
12	12	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
3	3	0	0	0	0	0	N	Motor Vehicle in Transpo
3	3	0	0	0	0	0	N	Motor Vehicle in Transpo
3	3	0	0	0	0	0	N	Motor Vehicle in Transpo
3	3	0	0	0	0	0	N	Motor Vehicle in Transpo
3	3	0	0	0	0	0	N	Motor Vehicle in Transpo
3	3	0	0	0	0	0	N	Motor Vehicle in Transpo
6	6	0	0	0	0	0	N	Motor Vehicle in Transpo
1	1	0	0	0	0	0	N	Parked Motor Vehicle
1	1	0	0	0	0	0	N	Parked Motor Vehicle
1	1	0	0	0	0	0	Υ	Parked Motor Vehicle
1	1	0	0	0	0	0	Υ	Parked Motor Vehicle
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
7	7	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
1	1	0	0	0	0			Parked Motor Vehicle
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
4	4	0	0	0	0		N	Motor Vehicle in Transpo
4	4	0	0	0	0	0	N	Motor Vehicle in Transpo
3	3	0	0	0	0			Motor Vehicle in Transpo
1	1	0	0	0	0	0	N	Parked Motor Vehicle

2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
1	1	0	0	0	0	0	N	Parked Motor Vehicle
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
3	3	0	0	0	0	0	Υ	Parked Motor Vehicle
1	1	0	0	0	0	0	Υ	Sign Support Single Post
1	1	0	0	0	0	0	N	Parked Motor Vehicle
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Parked Motor Vehicle
4	4	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
3	3	0	0	0	2	0	Υ	Motor Vehicle in Transpo
1	1	0	0	0	0	0	Υ	Parked Motor Vehicle
2	2	0	0	0	2	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	Υ	Parked Motor Vehicle
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
1	1	0	0	0	1	0	N	Other Non-Collision (MC
4	4	0	0	0	0	0	Υ	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
5	3	2	0	0	0	0	N	Parked Motor Vehicle
1	1	0	0	0	0	0	Υ	Parked Motor Vehicle
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
3	3	0	0	0	1	0	Υ	Motor Vehicle in Transpo
3	3	0	0	0	0	0	N	Motor Vehicle in Transpo
3	3	0	0	0	0	0	N	Motor Vehicle in Transpo
3	3	0	0	0	0		N	Motor Vehicle in Transpo
3	3	0	0	0	0		N	Motor Vehicle in Transpo
1	1	0	0	0	0	_	Υ	Parked Motor Vehicle
2	2	0	0	0	2		N	Motor Vehicle in Transpo
2	2	0	0	0	2		N	Motor Vehicle in Transpo
2	2	0	0	0	2		N	Motor Vehicle in Transpo
2	2	0	0	0	2	0	N	Motor Vehicle in Transpo

2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
1	1	0	0	0	0	0	N	Parked Motor Vehicle
3	3	0	0	0	0	0	N	Motor Vehicle in Transpo
4	4	0	0	0	0	0	N	Motor Vehicle in Transpo
1	1	0	0	0	0	0	N	Parked Motor Vehicle
5	5	0	0	0	0	0	N	Motor Vehicle in Transpo
1	1	0	0	0	0	0	N	Parked Motor Vehicle
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
2	2	0	0	0	0	0	N	Motor Vehicle in Transpo
0	0	0	0	0	0	0	N	Building or Other Structu
1	1	0	0	0	1	0	N	Trees/Shrubbery
3	3	0	0	0	0	0	N	Motor Vehicle in Transpo

First_Ha_1	Manner_of_	Direction_	Junction_R	Intersecti	Crash_Seve	Alcohol_In	Drugs_Invo
On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way I	PROPERTY DAMAGE ONLY	N	N
In Parking Lane,	Rear to Side (Nor	Angle (force ex	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	Υ	N
In Parking Lane,	Angle Direction n	Angle (force ex	Non-Junction	Not an Interse	UNKNOWN	N	N
On Roadway	Rear to Front (No	Opposing (Opp	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way I	PROPERTY DAMAGE ONLY	N	N
Off Roadway	Not a Collision w	Same (same di	Intersection Re	Four (4)-Way I	PROPERTY DAMAGE ONLY	N	N
On Roadway	Not a Collision w	Same (same di	Intersection Re	Four (4)-Way I	POSSIBLE INJURY	N	N
On Roadway	Rear End (Front t	Same (same di	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
In Parking Lane,	Not a Collision w	Same (same di	Business Entran	Not an Interse	POSSIBLE INJURY	N	N
On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way I	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear End (Front t	Same (same di	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
In Parking Lane,	Sideswipe Same	Passing (glancii	Non-Junction	Not an Interse	UNKNOWN	N	N
On Roadway	Rear End (Front t	Same (same di	Intersection Re	Four (4)-Way I	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle Same Direc	Angle (force ex	Intersection	Four (4)-Way I	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle Right (Fron	Angle (force ex	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear End (Front t	Same (same di	Intersection Re	Four (4)-Way I	PROPERTY DAMAGE ONLY	N	N
In Parking Lane,	Rear to Side (Nor	Angle (force ex	Non-Junction	Not an Interse	UNKNOWN	N	N
On Roadway	Sideswipe Same	Passing (glancii	Intersection Re	Four (4)-Way I	PROPERTY DAMAGE ONLY	N	N
On Roadway	Sideswipe Same	Passing (glancii	Intersection Re	Four (4)-Way I	SUSPECTED MINOR INJURY	Υ	N
On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way I	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way I	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way I	SUSPECTED MINOR INJURY	N	N
On Roadway	Rear End (Front t	Same (same di	Intersection Re	Four (4)-Way I	PROPERTY DAMAGE ONLY	N	N
On Roadway	Sideswipe Same	Passing (glancii	Intersection Re	Four (4)-Way I	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle (Front to S	Angle (force ex	Intersection	Four (4)-Way I	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle (Front to S	Angle (force ex	Intersection	Four (4)-Way I	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear to Side (Nor	Angle (force ex	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle Direction n	Angle (force ex	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way I	POSSIBLE INJURY	N	N
On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way I	PROPERTY DAMAGE ONLY	N	N
On Roadway	Not a Collision w	Same (same di	Intersection Re	Four (4)-Way I	POSSIBLE INJURY	N	N
On Roadway	Not a Collision w	Same (same di	Intersection Re	Four (4)-Way I	POSSIBLE INJURY	N	N
Off Roadway	Rear to Front (No	Opposing (Opp	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N

On Roadway	Rear to Side (Nor	Angle (force ex	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle Same Direc	Same (same di	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear to Side (Nor	Angle (force ex	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear to Front (No	Opposing (Opp	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	Υ	Υ
On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle (Front to S	Angle (force ex	Intersection Re	T Intersection	SUSPECTED MINOR INJURY	N	N
On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear to Side (Nor	Angle (force ex	Intersection Re	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear to Front (No	Opposing (Opp	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear to Side (Nor	Angle (force ex	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear End (Front t	Same (same di	Intersection Re	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear End (Front t	Same (same di	Intersection Re	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear to Front (No	Angle (force ex	Intersection Re	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear to Front (No	Angle (force ex	Intersection Re	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear to Front (No	Angle (force ex	Intersection Re	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear to Front (No	Angle (force ex	Intersection Re	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear to Front (No	Angle (force ex	Intersection Re	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear to Side (Nor	Angle (force ex	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway	Sideswipe Same	Passing (glancii	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
Off Roadway	Angle Same Direc	Same (same di	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
Off Roadway	Angle Same Direc	Same (same di	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
In Parking Lane,	Angle Same Direc	Angle (force ex	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
In Parking Lane,	Angle Same Direc	Angle (force ex	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear End (Front t	Same (same di	Intersection Re	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear to Side (Nor	Angle (force ex	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
In Parking Lane,	Angle (Front to S	Opposing (Opp	Intersection Re	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear End (Front t	Same (same di	Intersection Re	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear End (Front t	Same (same di	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle Same Direc	Angle (force ex	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear to Side (Nor	Angle (force ex	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
In Parking Lane	Rear End (Front t	Same (same di	Business Entran	Not an Interse	PROPERTY DAMAGE ONLY	N	N

On Roadway Angle Right (Fror Angle (force ex Intersection Shoulder Angle Same Dire (Same (same di Non-Junction Not an Interse PROPERTY DAMAGE ONLY N N N N On Roadway Angle Right (Fror Angle (force ex Intersection Four (4)-Way PROPERTY DAMAGE ONLY N N N N N On Roadway Angle Right (Fror Angle (force ex Intersection Four (4)-Way PROPERTY DAMAGE ONLY N N N N N N N N N N N N N N N N N N								
Shoulder Angle Same Dire Same (same di Non-Junction Not an Interse PROPERTY DAMAGE ONLY N N N ON Roadway Angle Right (Fror Angle (force ex Intersection Four (4)-Way PROPERTY DAMAGE ONLY N N N N ON Roadway Angle Right (Fror Angle (force ex Intersection Four (4)-Way PROPERTY DAMAGE ONLY N N N N N N N N N N N N N N N N N N	On Roadway	Rear End (Front t	Same (same di	Intersection Re	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway Angle Right (Fror Angle (force ex Intersection Four (4)-Way PROPERTY DAMAGE ONLY N N N On Roadway Angle Right (Fror Angle (force ex Intersection Four (4)-Way PROPERTY DAMAGE ONLY N N N N N N N N N N N N N N N N N N	On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway Angle Right (Fron Angle (force ex Intersection Four (4)-Way PROPERTY DAMAGE ONLY N N N N N N N N A THE PROPERTY DAMAGE ONLY N N N N N N N N N N N N N N N N N N	Shoulder	Angle Same Direc	Same (same di	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway Angle Same Dire Angle (froce ex Non-Junction Not an Interse PROPERTY DAMAGE ONLY N N N Separator Not a Collision w Same (same di Intersection Feu (4)-Way PROPERTY DAMAGE ONLY N N N N In Parking Lane, Sideswipe Same Passing (glanci Non-Junction Not an Interse PROPERTY DAMAGE ONLY N N N N N N N N N N N N N N N N N N	On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
In Parking Lane Angle (Front to S Opposing (Opp Intersection Re Y Intersection PROPERTY DAMAGE ONLY N N Same (same di Intersection Four (4)-Way PROPERTY DAMAGE ONLY N N N N N N N N Same (same di Intersection Four (4)-Way PROPERTY DAMAGE ONLY N N N N N N N N N N N N N N N N N N	On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
Separator Not a Collision w Same (same di Intersection Four (4)-Way PROPERTY DAMAGE ONLY N N N N N N N N N N N N N N N N N N	On Roadway	Angle Same Dire	Angle (force ex	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
In Parking Lane   Sideswipe Same   Passing (glanci Non-Junction   Not an Interse PROPERTY DAMAGE ONLY   N   N   N   N   N   N   N   N   N	In Parking Lane,	Angle (Front to S	Opposing (Opp	Intersection Re	Y Intersection	PROPERTY DAMAGE ONLY	N	N
On Roadway  Sideswipe Same  Passing (glanci Non-Junction In Parking Lane, Rear End (Front t Same (same di Non-Junction) On Roadway  Rear End (Front t Same (same di Intersection) On Roadway  Rear to Side (Non Angle (force ex Non-Junction) Not an Interse PROPERTY DAMAGE ONLY N N N N N N N N N N N N N N N N N N	Separator	Not a Collision w	Same (same di	Intersection	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
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On Roadway Rear End (Front t Same (same di Intersection Re Four (4)-Way POSSIBLE INJURY N N N N N N N N N N N N N N N N N N N	In Parking Lane,	Unknown	Unknown	Non-Junction	Not an Interse	UNKNOWN	N	N
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On Roadway Rear End (Front t Same (same di Intersection Re Four (4)-Way PROPERTY DAMAGE ONLY N N In Parking Lane, Rear to Side (Nor Angle (force ex Non-Junction Not an Interse UNKNOWN N N N On Roadway Angle Right (Fron Angle (force ex Intersection Four (4)-Way POSSIBLE INJURY N N N N N N N N N N N N N N N N N N N	On Roadway	Rear End (Front t	Same (same di	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
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On Deadway Angle Bight (Franchage (force sylptoreaction   Four (A) May (DOCCIDE INVIDE	On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way	POSSIBLE INJURY	N	N
On Roadway   Angle Right (Fron Angle (force ex Intersection   Four (4)-Way   POSSIBLE INJURY   N   N	On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way	POSSIBLE INJURY	N	N

On Roadway	Angle Right (Fron	Angle (force ex	Intersection	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle Same Direc	Angle (force ex	Intersection Re	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
In Parking Lane,	Rear End (Front t	Same (same di	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	Υ	N
On Roadway	Rear End (Front t	Same (same di	Intersection Re	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle (Front to S	Angle (force ex	Intersection	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
Shoulder	Rear to Front (No	Opposing (Opp	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle (Front to S	Angle (force ex	Intersection	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
In Parking Lane,	Rear to Side (Nor	Angle (force ex	Business Entran	Not an Interse	PROPERTY DAMAGE ONLY	N	N
On Roadway	Rear End (Front t	Same (same di	Intersection	Four (4)-Way	PROPERTY DAMAGE ONLY	N	N
On Roadway	Angle Same Direc	Same (same di	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N
Off Roadway	Not a Collision w	Same (same di	Non-Junction	Not an Interse	UNKNOWN	N	N
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On Roadway	Rear to Side (Nor	Angle (force ex	Non-Junction	Not an Interse	PROPERTY DAMAGE ONLY	N	N

Lighting	Weather	Road_Condi	School_Bus	Work_Zone_	Month	Year
Daylight	Clear	Dry	No	No	2	2016
Darkness Lighted	Clear	Dry	No	No	2	2016
Daylight	Clear	Dry	No	No	2	2016
Daylight	Clear	Dry	No	No	3	2016
Daylight	Snowing	Snow	No	No	3	2016
Daylight	Clear	Dry	No	No	4	2016
Daylight	Clear	Dry	No	No	5	2016
Daylight	Clear	Dry	No	No	6	2016
Daylight	Clear	Dry	No	No	6	2016
Daylight	Clear	Dry	No	No	6	2016
Daylight	Clear	Dry	No	No	6	2016
Unknown	Clear	Dry	No	No	7	2016
Daylight	Clear	Dry	No	No	9	2016
Daylight	Clear	Dry	No	No	9	2016
Daylight	Clear	Dry	No	No	9	2016
Daylight	Cloudy, Overcast	Dry	No	No	10	2016
Daylight	Clear	Dry	No	No	11	2016
Daylight	Clear	Dry	No	No	11	2016
Darkness Lighted	Clear	Dry	No	No	11	2016
Daylight	Clear	Wet	No	No	12	2016
Daylight	Clear	Snow	No	No	12	2016
Darkness Lighted	Clear	Ice/Frost	No	No	12	2016
Daylight	Clear	Ice/Frost	No	No	1	2017
Dusk	Clear	Dry	No	No	1	2017
Daylight	Snowing	Snow	No	No	2	2017
Daylight	Snowing	Ice/Frost	No	No	2	2017
Daylight	Clear	Dry	No	No	2	2017
Daylight	Clear	Dry	No	No	2	2017
Daylight	Clear	Dry	No	No	3	2017
Daylight	Clear	Dry	No	No	3	2017
Daylight	Sleet/Hail/Freezing Rain	Wet	No	No	3	2017
Daylight	Sleet/Hail/Freezing Rain	Slush	No	No	3	2017
Daylight	Clear	Dry	No	No	3	2017

Daylight	Clear	Dry	No	No	4	2017
Daylight	Raining	Wet	No	No	4	2017
Daylight	Clear	Dry	No	No	5	2017
Daylight	Clear	Dry	No	No	5	2017
Daylight	Clear	Dry	No	No	5	2017
Darkness Lighted	Clear	Dry	No	No	5	2017
Daylight	Clear	Dry	No	No	6	2017
Daylight	Clear	Dry	No	No	6	2017
Daylight	Raining	Wet	No	No	7	2017
Darkness Lighted	Clear	Dry	No	No	8	2017
Daylight	Clear	Dry	No	No	9	2017
Daylight	Clear	Dry	No	No	10	2017
Darkness Lighted	Snowing	Snow	No	No	11	2017
Darkness Lighted	Snowing	Ice/Frost	No	No	11	2017
Dusk	Snowing	Ice/Frost	No	No	11	2017
Dusk	Blowing Snow	Ice/Frost	No	No	11	2017
Dusk	Blowing Snow	Snow	No	No	11	2017
Dusk	Snowing	Snow	No	No	11	2017
Daylight	Clear	Dry	No	No	11	2017
Darkness Lighted	Clear	Dry	No	No	1	2018
Darkness Lighted	Clear	Ice/Frost	No	No	1	2018
Daylight	Clear	Snow	No	No	2	2018
Daylight	Clear	Ice/Frost	No	No	2	2018
Daylight	Clear	Ice/Frost	No	No	2	2018
Daylight	Clear	Snow	No	No	2	2018
Daylight	Clear	Ice/Frost	No	No	2	2018
Daylight	Clear	Dry	No	No	3	2018
Daylight	Clear	Dry	No	No	3	2018
Daylight	Clear	Dry	No	No	4	2018
Daylight	Clear	Dry	No	No	5	2018
Daylight	Raining	Wet	No	No	6	2018
Daylight	Clear	Dry	No	No	8	2018
Daylight	Clear	Dry	No	No	9	2018
Daylight	Cloudy, Overcast	Dry	No	No	9	2018

Daylight	Clear	Dry	No	No	11	2018
Daylight	Clear	Dry	No	No	11	2018
Darkness Lighted	Clear	Dry	No	No	12	2018
Daylight	Clear	Ice/Frost	No	No	2	2019
Daylight	Clear	Wet	No	No	2	2019
Daylight	Clear	Dry	No	No	2	2019
Daylight	Snowing	Snow	No	No	3	2019
Daylight	Clear	Snow	No	No	2	2019
Daylight	Clear	Dry	No	No	3	2019
Daylight	Clear	Snow	No	No	3	2019
Dusk	Clear	Dry	No	No	5	2019
Daylight	Clear	Dry	No	No	7	2019
Daylight	Clear	Dry	No	No	8	2019
Darkness Lighted	Clear	Dry	No	No	8	2019
Darkness Unlighted	Clear	Dry	No	No	9	2019
Daylight	Clear	Dry	No	No	10	2019
Daylight	Clear	Dry	No	Yes	11	2019
Daylight	Clear	Slush	No	No	11	2019
Daylight	Clear	Dry	No	No	11	2019
Daylight	Clear	Wet	No	No	12	2019
Daylight	Clear	Dry	No	No	1	2020
Darkness Lighted	Clear	Dry	No	No	1	2020
Daylight	Clear	Dry	No	No	1	2020
Daylight	Snowing	Wet	No	No	1	2020
Daylight	Snowing	Ice/Frost	No	No	1	2020
Daylight	Clear	Ice/Frost	No	No	2	2020
Daylight	Clear	Snow	No	No	2	2020
Daylight	Clear	Ice/Frost	No	No	2	2020
Daylight	Clear	Wet	No	No	2	2020
Daylight	Clear	Dry	No	No	2	2020
Daylight	Blowing Snow	Snow	No	No	2	2020
Daylight	Blowing Snow	Ice/Frost	No	No	2	2020
Daylight	Snowing	Snow	No	No	2	2020
Daylight	Snowing	Ice/Frost	No	No	2	2020

Daylight	Clear	Dry	No	No	2	2020
Daylight	Clear	Dry	No	No	3	2020
Daylight	Clear	Dry	No	No	3	2020
Daylight	Clear	Dry	No	No	5	2020
Daylight	Clear	Dry	No	No	5	2020
Daylight	Clear	Dry	No	No	5	2020
Daylight	Clear	Dry	No	No	6	2020
Daylight	Clear	Dry	No	No	7	2020
Daylight	Clear	Dry	No	No	7	2020
Daylight	Clear	Dry	No	No	7	2020
Daylight	Clear	Dry	No	No	8	2020
Daylight	Clear	Dry	No	No	9	2020
Daylight	Clear	Dry	No	No	10	2020

# Literature Review Summary

#### Why City Streets were Converted to One-Way

In the post-World War II era, the exodus of people from the cities to the suburbs was in part fueled by the construction of highways and the affordability of automobiles. However, jobs and some retail remained in the city. Converting city streets which were mainly built prior to the automobile and as a result are a bit narrow for them, from two-way to one-way flow was the city traffic engineers' solution to provide efficient access from the evolving suburbs to the city center. In the 1970's, as part of a broader effort to revitalize downtown Casper, Durbin and Wolcott Streets were transitioned to one-way streets. This was consistent with national trends that recommended the conversion of two-way streets to one-way streets to expedite the movement more vehicular traffic through the downtown area.

#### **Current Conversation on One-Way versus Two-Way Streets**

may make roads more comfortable for bicyclists.

While research conducted in the mid-20<sup>th</sup> century convinced city engineers and planners that the traffic flow efficiency of one-way streets was more beneficial than two-way streets, the modern debate, which has expanded to include numerous street characteristics in addition to traffic flow, remains rather divergent. At a high-level comparison, the current debate compares the auto-centricity of one-way streets against neighborhood/business district revitalization and community-oriented neighborhoods spawned by the conversion to two-way streets.

The primary argument for one-way streets is the ability to synchronize traffic signals along a corridor allowing for an efficient through-put of vehicles with minimal stopping. The minimal delay produced on one-way streets and the higher average travel speed provide for a higher vehicle capacity on one-way streets than two-way streets. Although one-way streets can reduce the frequency of left-turn and head-on accidents, higher speeds can increase the severity of an accident.

Advocates of two-way streets cite that higher vehicle speeds do not promote a pedestrian friendly environment and do not breed a community-oriented neighborhood. The increased speeds and vehicle volume make it challenging for pedestrians to cross the street at an unsignalized intersection due to the reduced distance between vehicles, and result in wasted street space outside of rush hours. Conversion to two-way streets acts as a tool for traffic calming, which have been shown to have many benefits including aesthetic appeal to pedestrians. The increase in pedestrian activity is believed to facilitate a more vibrant

community, reduced crime rates, and a healthier business environment. The slower vehicle speeds also

One-way versus two-way networks create respective safety issues for pedestrians and bicyclists at intersections as well. The reduced number of vehicle-pedestrian conflict points at an intersection of one-way streets - four compared to 24 at a two-way intersection - is a benefit of one-way streets. However, this is also counter-argued by proposing that street networks with one-way streets create more 'conflict sequences' (16 possible sequences) at an intersection than a two-way street network (two possible sequences). This implies that two-way street networks create a standard type of intersection where pedestrian are more cognizant of the potential conflicts.

The business and economic environment along a street is also influenced by the street's traffic flow. One-way streets create less storefront exposure with half of the store fronts visually *eclipsed* from the driver's view. The improved vehicle flow on one-way streets however, allows drivers to reach a business more efficiently, and may also allow for more on-street parking. The difference in vehicle miles traveled on one-way versus two-way networks is often a factor of comparison for cities deciding on whether to convert their streets to two-way as drivers typically 'drive around the block' to reach a destination on a one-way street. The increase in vehicle miles traveled on one-way streets is also compared against the more congested nature of two-way streets which require more vehicle stops and thus increase vehicle emissions and reduce air quality. The higher speeds found on one-way streets also decreases the visibility and read-ability of store signs to drivers. The lower speeds found on two-way streets leads to a more comfortable environment for pedestrians who may be more likely to walk and shop along these streets. Despite these counter-arguments, research generally concludes that one-way and two-way streets each cater to a specific type of business. One-way streets are more beneficial to larger footprint retail/ commercial stores with off-street parking. However, two-way streets cater more towards stores that rely on foot traffic and impulse purchases.

The benefits to transit due to one-way versus two-way flow also have diverging viewpoints. The possible increase in congestion may negatively impact transit services provided by buses; however, two-way streets make it easier to locate the returning bus stop and the increase in community-orientation cited to be created by two-way streets may also lead to increase use of transit. On-street parking configurations, loading zones and bus stops are also sensitive to street direction flows. Typically more rush hour parking restrictions are found on two-way streets than one-way streets.

Two-way traffic proponents believe that one-way traffic flow provides a less healthy living environment overall. One-way traffic proponents believe that efficient traffic flow on a city's street system is paramount, and that one-way street sections can more easily integrate multi-modal elements such as exclusive bus and bike lanes. To achieve the best of both worlds, one study showed using

modeling software that two-way streets with limited or banned left turning movements can yield a similar capacity to one-way couplets. The decision to convert one-way streets to two-way streets is highly dependent on the unique characteristics of the street or neighborhood in question as well as the desires of the city and many aspects should be evaluated including network capacity, travel distance to destination, travel speed, pedestrian environment, and retail exposure.

## <u>Case Studies – Example of cities that have recently undergone a two-way conversion</u>

Several case studies of recent one-way to two-way conversions are presented below.

STREET	ADT	YEAR CONVERTED TO TWO-WAY	PRIMARY REASON FOR CONVERSION	RESULTS
Kings Street – Charleston, SC	11,500 (1994)	1994	Commercial and economic benefit of downtown Charleston	<ul> <li>Frequency and quality of business increased post conversion</li> <li>Conversion induced a positive change in commercial property values</li> </ul>
Brook & First Street - Louisville, KY	8,900 (Brook 2009); 7,700 (Brook 2013); 3,650 (First 2009); 5,700 (First 2013)	2011 Converted to a single lane in each direction with bike lane	Downtown Revitalization with a focus to establish more desirable residential neighborhoods	Pre- vs. post- conversion analysis revealed:  • 23% drop in crime  • Brook St: 36% reduction in collisions  • First St: 60% reduction in collisions  • Brook St: 39% increase in property values
North & Main Street – Old Town Fairfax, VA	17,000 (2005); 12,000 (Main 2013); 22,000 (North 2013)	2006	Downtown Revitalization including a pedestrian- friendly downtown	<ul> <li>Speeds increased post conversion by 2-4 MPH</li> <li>Daily traffic volumes decreased</li> <li>Conversion spurred redevelopment that also increased parking four fold</li> </ul>
Second Avenue – Midtown of Detroit, MI	No data available	2014 Four lanes to one in each direction, a center turn lanes, and buffed bicycle lane in each direction	Traffic calming to create a broader walkable urban district and revitalized a deteriorated corridor	<ul> <li>Anecdotal:</li> <li>Reduce confusion to visitors</li> <li>Feels more like a slower paced residential street</li> <li>Encourages more bike riding</li> <li>Negatively impacted parking and access to a restaurant</li> </ul>
Vine Street – Cincinnati, OH Central Parkway to McMiken Avenue, 0.7 miles	No data available	1975 Converted to one-way; 1999 Converted to two-way	To stimulate and support increased business activity; 40% of the businesses on Vine St closed after the 1975 conversion to one-way	<ul> <li>Post two-way conversion, traffic volumes decreased by 28%</li> <li>Average crashes per year were <ul> <li>212 prior to 1975,</li> <li>102 from 1975-1999</li> <li>164 post 1999</li> </ul> </li> <li>Post two-way conversion, travel time as doubled from 2 minutes to 4.5 minutes</li> <li>Post two-way conversion, average speed decreased from 18 to 12 mph</li> </ul>

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# **Case Studies**

Old Town Fairfax, VA Charleston, SC Louisville, KY

# Old Town Fairfax, VA – North and Main Streets

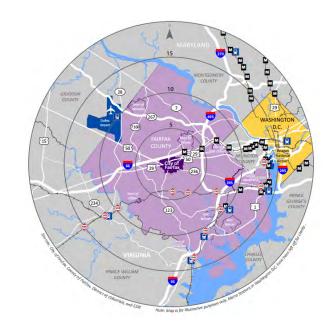
Population

- City/County: 25,000 / 1,000,000

- Metro Area: 5,860,000

Average Daily Traffic (ADT)

	Main Street	North Street
2005	17,000	17,000
2013	12,000	22,000

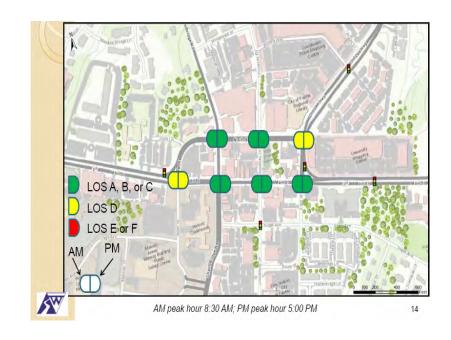


- Bus Service
  - 7 bus lines operate along and across North and Main Streets
  - Operators include WMATA and local governments

## Mead&Hunt

## Old Town Fairfax, VA – North and Main Streets

- Originally a Two-Way operation
- Converted to a One-Way couplet in 1972
- Reverted to a Two-Way operation in 2008
- Both streets converted to a single lane in each direction with center turn lanes



Mead&Hunt

## Old Town Fairfax, VA – North and Main Streets

#### Goals

- Downtown revitalization/pedestrian-friendly downtown with wider sidewalks
- Balance between efficient traffic flow and pedestrian safety
- Reduce through traffic in downtown area

#### Results

- Speeds increased post conversion by 2-4 mph
- Overall, daily traffic volumes decreased
- Conversion spurred development and increased parking 4-fold
- Crashes rose slightly after the conversion to two-way, but have fallen every year since 2011

## Mead&Hunt

# Charleston, SC – King Street

Population

- City/County: 120,000

- Metro Area: 549,000

 King Street – converted in 1994 to a Two-Way operation from Calhoun St. to Spring St.

Average Daily Traffic (ADT)

- 1994: 11,500

- 2005: 12,600

- 2012: 9,300

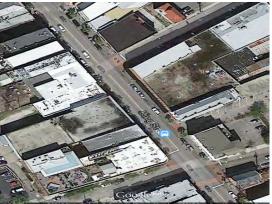


# **Charleston, SC – King Street**

- Bus Service
  - 6 routes operate along three segments of King Street

- 4 Lanes
  - 1 lane in each direction
  - 1 parking lane on each side





Mead&Hunt

# **Charleston, SC – King Street**

- Goals
  - Commercial and economic benefit of downtown revitalization
- Results
  - Frequency and quality of business increased post conversion
  - Conversion induced a positive change in commercial property values

# Louisville, KY – Brook and First Streets

Population

- City/County: 757,000

- Metro Area: 1,263,000

Average Daily Traffic (ADT)

	Brook Street	First Street
2009	8,900	3,650
2013	7,700	5,700

- Bus Service
  - Brook Street: 1 local, 1 express, Medical Center circulator
  - First Street: Medical Center Circulator



# Louisville, KY – Brook and First Streets

- One-Way operation in 2007
- Converted to Two-Way operation in 2011
  - Single Lane in each direction with a bike lane





Mead&Hunt

## Louisville, KY – Brook and First Streets

### Goals

- Downtown revitalization and residential neighborhood desirability
- Improve traffic and community safety

### Results

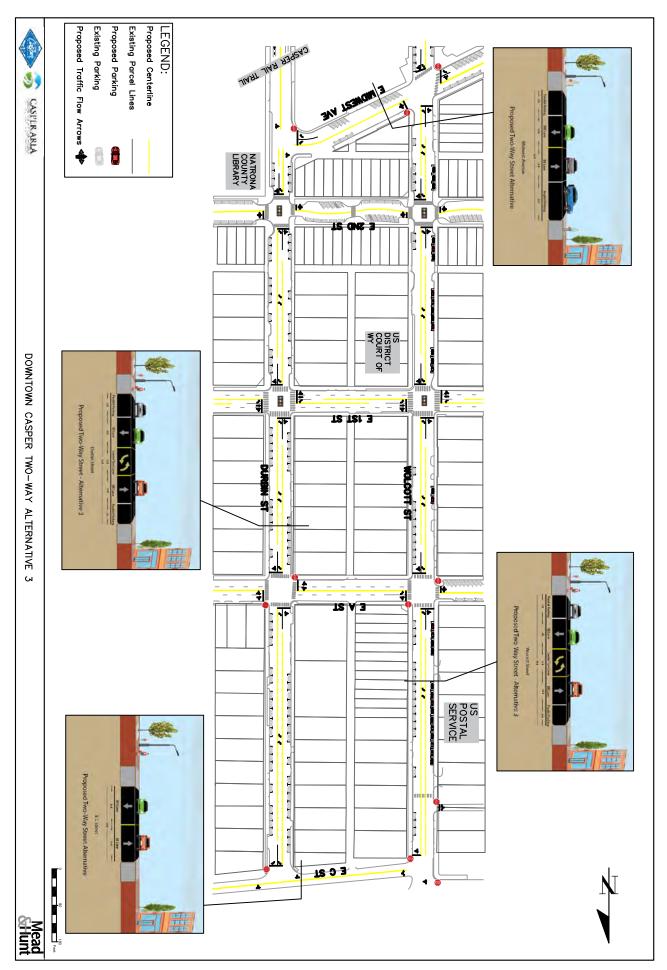
- Reduced crime by 23% (auto theft and robberies)
- Reduced collisions
  - Along Brook Street by 36%
  - Along First Street by 60%
- Increased property values by 39%
- Increased property improvements by nearly 100%
- Supporting actions: Street trees, bike lanes, community gardens, public art, and adaptive reuse of abandoned properties

## Mead&Hunt

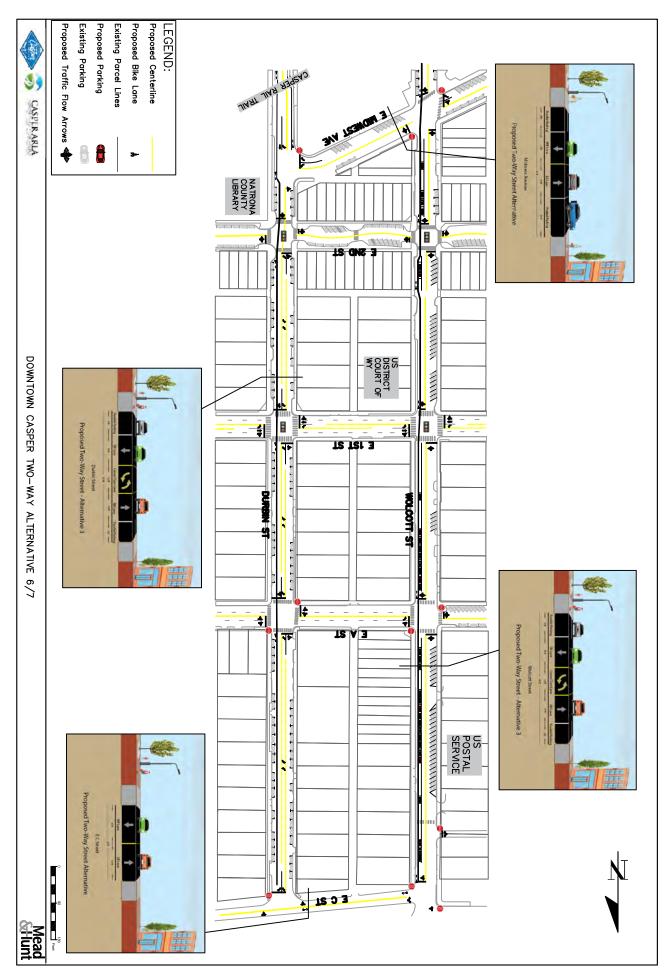
# Concept Plans

- 1. Alternative 3
- 2. Alternative 6-7

## Alternative 3



## Alternative 6-7



## **Cost Estimate**

- 1. Two-Way Block No Signal
- 2. Two-Way Block Signal Modification
- 3. Two-Way Block Signal Rebuild

# Two-Way Block – No Signal

#### Standard City Block Unit cost for one-way to two-way conversion

ITEM	CODE		UNIT	PRICE	QUANTITY	AMOUNT
		Preliminary				
		Removal of Existing Pavement				
101	114280	Markings - Any Width	LF	\$1.50	80	\$120.00
102		Maintenance of Traffic	LS	\$5,000.00	1	\$5,000.00
			CATEGO	RY TOTAL		\$5,120.00
		Markings				•
		Reflective Thermoplastic Marking 5"				
501	585405	White	LF	\$6.00	1000	\$6,000.00
		Reflective Thermoplastic Marking 5"				
502	585407	Yellow	LF	\$6.00	800	\$4,800.00
		Reflective Thermoplastic Marking 24"				
503	585424	White	LF	\$25.00	40	\$1,000.00
		Bike Lane Preformed Thermoplastic				
504	585631	Pavement Marking With Arrow	SF	\$40.00	26	\$1,040.00
			CATEGO	RY TOTAL		\$12,840.00
		Pavement/ Sidewalk				
601	60000	ADA Ramp Replacement and Repairs	EA	\$5,000.00	4	\$20,000.00
			CATEGO	RY TOTAL		\$20,000.00
		Streetscaping				
		Streetscaping				
701		Tree Pit Repair	EA	\$1,000.00		\$0.00
702		. •	EA	\$2,000.00		\$0.00
702 703		Tree Pit Repair Trash Can Bench		\$2,000.00 \$3,000.00		\$0.00 \$0.00
702 703 704		Tree Pit Repair Trash Can Bench Bus Stop Kiosk	EA EA EA	\$2,000.00 \$3,000.00 \$10,000.00		\$0.00 \$0.00 \$0.00
702 703		Tree Pit Repair Trash Can Bench	EA EA EA	\$2,000.00 \$3,000.00 \$10,000.00 \$20,000.00		\$0.00 \$0.00 \$0.00 \$0.00
702 703 704		Tree Pit Repair Trash Can Bench Bus Stop Kiosk	EA EA EA	\$2,000.00 \$3,000.00 \$10,000.00		\$0.00 \$0.00 \$0.00
702 703 704		Tree Pit Repair Trash Can Bench Bus Stop Kiosk Bus Stop Shelter	EA EA EA	\$2,000.00 \$3,000.00 \$10,000.00 \$20,000.00		\$0.00 \$0.00 \$0.00 \$0.00
702 703 704 705		Tree Pit Repair Trash Can Bench Bus Stop Kiosk Bus Stop Shelter  Signing	EA EA EA CATEGO	\$2,000.00 \$3,000.00 \$10,000.00 \$20,000.00 PRY TOTAL		\$0.00 \$0.00 \$0.00 \$0.00
702 703 704 705	801605	Tree Pit Repair Trash Can Bench Bus Stop Kiosk Bus Stop Shelter  Signing Sheet Aluminum Signs	EA EA EA	\$2,000.00 \$3,000.00 \$10,000.00 \$20,000.00	25	\$0.00 \$0.00 \$0.00 \$0.00
702 703 704 705		Tree Pit Repair Trash Can Bench Bus Stop Kiosk Bus Stop Shelter  Signing Sheet Aluminum Signs Square Perforated Tubular Steel Sign	EA EA EA CATEGO	\$2,000.00 \$3,000.00 \$10,000.00 \$20,000.00 PRY TOTAL		\$0.00 \$0.00 \$0.00 \$0.00 \$1,250.00
702 703 704 705 801	801130	Tree Pit Repair Trash Can Bench Bus Stop Kiosk Bus Stop Shelter  Signing Sheet Aluminum Signs Square Perforated Tubular Steel Sign Posts	EA EA EA CATEGO SF EA	\$2,000.00 \$3,000.00 \$10,000.00 \$20,000.00 PRY TOTAL \$50.00 \$125.00	6	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$1,250.00
702 703 704 705 801	801130	Tree Pit Repair Trash Can Bench Bus Stop Kiosk Bus Stop Shelter  Signing Sheet Aluminum Signs Square Perforated Tubular Steel Sign Posts Square Tubular Steel Anchor Bases	EA EA EA CATEGO	\$2,000.00 \$3,000.00 \$10,000.00 \$20,000.00 PRY TOTAL		\$0.00 \$0.00 \$0.00 \$0.00 \$1,250.00
702 703 704 705 801 802 803	801130 801135	Tree Pit Repair Trash Can Bench Bus Stop Kiosk Bus Stop Shelter  Signing Sheet Aluminum Signs Square Perforated Tubular Steel Sign Posts Square Tubular Steel Anchor Bases Remove Existing Ground Mounted/	EA EA EA CATEGO SF EA EA	\$2,000.00 \$3,000.00 \$10,000.00 \$20,000.00 PRY TOTAL \$50.00 \$125.00 \$125.00	6 6	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$1,250.00 \$750.00 \$750.00
702 703 704 705 801 802 803	801130 801135	Tree Pit Repair Trash Can Bench Bus Stop Kiosk Bus Stop Shelter  Signing Sheet Aluminum Signs Square Perforated Tubular Steel Sign Posts Square Tubular Steel Anchor Bases	EA EA EA CATEGO SF EA	\$2,000.00 \$3,000.00 \$10,000.00 \$20,000.00 PRY TOTAL \$50.00 \$125.00	6	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$1,250.00

CATEGORY TOTAL	\$2,750.00

## Traffic Signal

	CATEGORY TOTAL	\$0.00	
Pedestrian Lighting Pedestrian Lighting		000 0	\$0.00
	CATEGORY TOTAL		\$0.00
		SUB-TOTAL	\$40,710.00
	Contingency	25%	\$10,177.50
	3		, ,
		TOTAL	\$50,887.50
		Say	\$60,000.00

**Excludes: Pavement resurfacing, Lighting** 

# Two-Way Block – Signal Modification

Standard City Block Unit cost for one-way to two-way conversion

	ODE	ock Unit cost for one-way to two-way conversion	UNIT	PRICE	QUANTITY	AMOUNT
		Preliminary		•		
		Removal of Existing Pavement Markings - Any Width Maintenance of Traffic	LF LS	\$1.50 \$5,000.00	80 1	\$120.00 \$5,000.00
102 12	-0000			RY TOTAL		\$5,120.00
		Markings				
		Reflective Thermoplastic Marking 5" White	LF	\$6.00	1000	\$6,000.00
		Reflective Thermoplastic Marking 5" Yellow Reflective Thermoplastic Marking 24" White	LF LF	\$6.00 \$25.00	800 40	\$4,800.00 \$1,000.00
		Bike Lane Preformed Thermoplastic Pavement Marking With Arrow	SF	\$40.00	26	\$1,040.00
			CATEGO	RY TOTAL		\$12,840.00
04 60	0000	Pavement/ Sidewalk	Γ.	¢5,000,00	4	00 000 0C
01 60	0000	ADA Ramp Replacement and Repairs	EA	\$5,000.00	4	\$20,000.00
		Otro eta e anima	CATEGO	RY TOTAL		\$20,000.00
01		Streetscaping Tree Pit Repair	EA	\$1,000.00		\$0.00
)2		Trash Can	EA	\$2,000.00		\$0.00
)3		Bench	EA	\$3,000.00		\$0.00
04		Bus Stop Kiosk	EA	\$10,000.00		\$0.00
05		Bus Stop Shelter	EA	\$20,000.00		\$0.00
			CATEGO	RY TOTAL		\$0.00
01 80	1605	Signing Sheet Aluminum Signs	SF	\$50.00	50	\$2,500.00
		Square Perforated Tubular Steel Sign Posts	EA	\$125.00	12	\$2,500.00
		Square Tubular Steel Anchor Bases	EA	\$125.00	12	\$1,500.00
		Remove Existing Ground Mounted/ Overhead Signs	EA	\$15.00	5	\$75.00
			EA	\$300.00		\$0.00
			LF 	\$1.75		\$0.00
			LF LF	\$2.00 \$3.00		\$0.00 \$0.00
			EA	\$3.00 \$2,500.00		\$0.00
			CATEGO	RY TOTAL		\$5,575.00
		Traffic Signal	. =	400	2C	2 000 00
		2" DIR BORE ADDED 2" DIR BORE	LF	100	36 \$	3,600.00
		WIRINGFOR PED HEAD	LF LF	100 200	10 \$ 2.4 \$	1,000.00 480.00
		WIRING FOR PED BUTTON	LF	200	2.46 \$	492.00
		WIRING FOR SIGNAL HEAD	LF	200	2.63 \$	526.00
		FLUSH MOUNTED SPLICE BOX/PULL BOX	EA	2	900 \$	1,800.00
		12" 3 SECTION SIGNAL HEAD	EA	3	700 \$	2,100.00
		BACKPLATE FOR 3 SECTION TRAFF. SIG.	EA	3	300 \$	900.00
		1-WAY-1SECT.(COUNTDOWN HAND/MAN EMBLEM)PED.SIG.HEAD PEDESTRIAN PUSH BUTTON SOLID STATE WITH LIGHT AND TONE	EA	1	600 \$	600.00
		STATION ASSEMBLY (9"x15") AND SIGN (R-10-3E)	EA	1	500 \$	500.00
		REMOVE FOUNDATION FOR ST LIGH POLE- 18" BELOW GRADE	EA	1	900 \$	900.00
		REMOVAL, SALVAGE AND DISPOSAL OF EXISTING TRAFFIC SIGNAL		'	300 ψ	300.00
		EQUIP	EA	1	900 \$	900.00
		TEMPORARY ADJUSTMENT OF TRAFFIC SIGNAL EQUIPMENT	EA		800 \$	-
		DETECTION SYSTEM	EA	1	5800 \$	5,800.00
		GALVANIZED STEEL POLE	EA	1	15000 \$	15,000.00
		APPROX 50' MAST ARM -SINGLE	EA	1	15000 \$	15,000.00
		POWDERCOATING PER MAST ARM OVER GALVANIZED	EA	1	1000 \$	1,000.00
		MAST ARM FDN VEHICLE TRAFFIC SIGNAL HEAD MOUNTING ASSEMBLY FOR MAST	CY	6	1200 \$	7,200.00
		ARM	EA	4	428.33 \$	1,713.32
		SINGLE LUMINAIRE INCLUDING LUMINAIRE ARMS AND ALL ASSOCIATED HARDWARE	EA	1	975 \$	975.00
		OVERHEAD SIGNS	SF	8	45 \$	360.00
		MOUNTING ASSEMBLY FOR SIGNS ON MAST ARMS	EA	2	300 \$	600.00
			CATEGO	RY TOTAL	\$	61,446.32
		Pedestrian Lighting	FΔ	ജനന		ቁስ ስስ
		Pedestrian Lighting Pedestrian Lighting	EA CATEGO	8000 RY TOTAL		\$0.00 \$0.00
				RY TOTAL	SUB-TOTAL	\$0.00
			CATEGO	RY TOTAL	SUB-TOTAL 40%	\$0.00 \$0.00 \$104,981.32 \$41,992.53
			CATEGO	RY TOTAL		\$0.00 \$104,981.32
			CATEGO	RY TOTAL	40%	\$0.00 \$104,981.32 \$41,992.53

# Two-Way Block – Signal Rebuild

	CODE	ck Unit cost for one-way to two-way conversion	UNIT	PRICE	QUANTITY	AMOL
		Preliminary				
101	114280	Removal of Existing Pavement Markings - Any Width	LF	\$1.50	80	\$120
102	120500	Maintenance of Traffic	LS	\$5,000.00	1	\$5,000
		Markings	CATEGO	DRY TOTAL		\$5,120
501	595405	Reflective Thermoplastic Marking 5" White	LF	\$2.00	1000	\$2,000
		Reflective Thermoplastic Marking 5" Yellow	LF	\$2.00	800	\$1,600
		Reflective Thermoplastic Marking 24" White	LF	\$6.00	40	\$240
504	585631	Bike Lane Preformed Thermoplastic Pavement Marking With Arrow	SF	\$30.00	26	\$780
			CATEGO	ORY TOTAL		\$4,620
		Pavement/ Sidewalk				
601	60000	ADA Ramp Replacement and Repairs	EA	\$5,000.00	4	\$20,000
			CATEGO	ORY TOTAL		\$20,000
		Streetscaping	ONIEGO	JILI TOTAL		Ψ20,000
701		Tree Pit Repair	EA	\$1,000.00		\$0
702		Trash Can	EA	\$2,000.00		\$(
703		Bench	EA	\$3,000.00		\$0
704		Bus Stop Kiosk	EA	\$10,000.00		\$0
705		Bus Stop Shelter	EA	\$20,000.00		\$1
			CATEGO	DRY TOTAL		\$
9 <b>0</b> 1	901605	Signing Sheet Aluminum Signs	SF	\$50.00	36	\$1,80
		Square Perforated Tubular Steel Sign Posts	EA	\$125.00	12	\$1,60 \$1,50
		Square Tubular Steel Anchor Bases	EA	\$125.00 \$125.00	12	\$1,50
		Remove Existing Ground or Overhead Signs	EA	\$15.00	5	\$7
		Signal				
		2" DIR BORE	LF	500	36 \$	18,00
		ADDED 2" DIR BORE	LF	500	10 \$	5,00
		WIRINGFOR PED HEAD	LF	800	2.4 \$	1,92
		WIRING FOR CIONAL LIFAR	LF	800	2.46 \$	1,96
		WIRING FOR SIGNAL HEAD FLUSH MOUNTED SPLICE BOX/PULL BOX	LF EA	800 2	2.63 \$ 900 \$	2,104 1,800
		12" 3 SECTION SIGNAL HEAD	EA	12	700 \$	8,400
		BACKPLATE FOR 3 SECTION TRAFF. SIG.	EA	12	300 \$	3,600
		1-WAY-1SECT.(COUNTDOWN HAND/MAN EMBLEM)PED.SIG.HEAD	EA	4	600 \$	2,400
		PEDESTRIAN PUSH BUTTON SOLID STATE WITH LIGHT AND TONE STATION			·	,
		ASSEMBLY (9"x15") AND SIGN (R-10-3E)	EA	4	500 \$	2,000
		REMOVE FOUNDATION FOR ST LIGH POLE- 18" BELOW GRADE	EA	1	900 \$	900
		REMOVAL, SALVAGE AND DISPOSAL OF EXISTING TRAFFIC SIGNAL EQUIP	EA	4	900 \$	3,600
		TEMPORARY ADJUSTMENT OF TRAFFIC SIGNAL EQUIPMENT	EA	12	800 \$	9,60
		DETECTION SYSTEM	EA	1	5800 \$	5,800
		GALVANIZED STEEL POLE	EA	4	15000 \$	60,000
		APPROX 50' MAST ARM -SINGLE	EA	4	15000 \$	60,000
		POWDERCOATING PER MAST ARM OVER GALVANIZED	EA	4	1000 \$	4,000
		MAST ARM FDN	CY	24	1200 \$	28,800
		VEHICLE TRAFFIC SIGNAL HEAD MOUNTING ASSEMBLY FOR MAST ARM SINGLE LUMINAIRE INCLUDING LUMINAIRE ARMS AND ALL ASSOCIATED	EA	12	428.33 \$	5,139
		HARDWARE	EA	1	975 \$	975
		OVERHEAD SIGNS	SF	12	45 \$	540
		MOUNTING ASSEMBLY FOR SIGNS ON MAST ARMS	EA	12	300 \$	3,600
			CATEGO	ORY TOTAL		\$230,22
					SUB-TOTAL	
						\$259,96
			C	ontingency	40%	\$103,98
					TOTAL	\$363,94
				Γ	Say	\$370,00
	Evolude					

Excludes: Pavement resurfacing, traffic signal rebuild, and pedestrian lighting

## **Summary of Public Comments**

To solicit community and stakeholder input on the proposed two-way street configurations, a public open house was held on August 31, 2021 at the City of Casper municipal building. Meeting announcements were posted on the MPO and City website and on social media channels. The meeting included a short presentation on the alternatives development, analysis and the conceptual design plans of two-way street configuration, followed by an open house with roll plans and posters of the study area concepts. Approximately 15 people attended. The attendees were asked to provide feedback on the proposed alternatives and design elements.

Comments received at the meeting and submitted in writing via email included:

Comment	Response
Requests for additional angled parking on Durbin (e.g. implementing Alternative 7 on Durbin Street)	<ul> <li>Address parking management and operations with a focus group to evaluate curbside vs. off-street regulations/ pricing, designated loading zones, employee parking and signage. Adding additional parking spaces without managing the curbside will result in the same perception of lack of available parking that currently exists</li> <li>Include design of east-west streets (e.g. A Street) for conversion to angled parking to replace any displaced spaces along Durbin or Wolcott</li> </ul>
Requests for more enforcement of existing curbside parking operations	- Address parking management and operations with a focus group to evaluate curbside vs. off-street regulations/ pricing, designated loading zones, employee parking and signage. Adding additional parking spaces without managing the curbside will result in the same perception of lack of available parking that currently exists

Evaluation of truck access and loading including ingress and egress of alleys	- During the development of construction level engineering design plans evaluate truck turning templates and access to alleys
Truck loading operations at Custom Kitchens near C Street were noted as a concern with the new traffic patterns	- Work with individual business owners to address loading concerns/ designated curbside space in the final design
Adding more bicycle parking	Incorporate bicycle parking corrals or racks in the design plans
Assessing the impacts to the post office curbside mailbox drop-off	- Work with the Post Office to relocate the curbside mailbox drop off
From: tmonroe2@tribcsp.com <tmonroe2@tribcsp.com> Sent: Saturday, August 21, 2021 1:22 PM To: Amanda Ainsworth <a href="mainsworth@casperwy.gov"> Subject: RE: August 24th Casper City Council Work Session</a></tmonroe2@tribcsp.com>	- Comment noted
Hi. Please pass on to the MPO folks my thoughts on the downtown one-way streets.	
LEAVE THEM ALONE! Spend your time and money fixing the 12 <sup>th</sup> and 13 <sup>th</sup> Streets one-way issues. Those streets are very dangerous. Tim Monroe, 1000 So. Center St. Casper 82601	
From: Clint Ide <clint@idelandleasing.com> Date: August 11, 2021 at 8:07:25 PM GMT To: Jeremy Yates <jyates@casperwy.gov> Subject: One way conversion</jyates@casperwy.gov></clint@idelandleasing.com>	- Work with individual business owners to address loading concerns/ designated curbside space in the final design
Good afternoon Jeremy,	
My name is Clint and I work for Downtown Self Storage here in downtown Casper. Our building is on North Wolcott Street and the parking in front of the building is very important for our clients	

to be able to load and unload their belongings. We are a little concerned that this one way conversion could affect our business in a negative fashion and deter potential future customers from choosing us as their self-storage provider, due to the lack of parking or inefficient parking.

What would parking on Wolcott Street look like if this conversion is to be completed?

Thank you,

Clint Ide Ide Land & Leasing Company 159 N. Wolcott St. Ste. 304 Casper, WY 82601

Phone: (307) 235-2500 Clint@idelandleasing.com https://casperofficespace.com

From: Lisa Scroggins

<LScroggins@natronacountylibrary.org>
Sent: Tuesday, August 31, 2021 3:37 PM
To: Jeremy Yates < jyates@casperwy.gov>
Cc: Cathy Stepp < cathy.donells@gmail.com>

Subject: RE: Reminder! Downtown Casper One-Way to Two

Way Conversion Study Public Meeting Tomorrow

**Importance:** High

Hi Jeremy. Thank you for sending this presentation. As you know, when I attended a previous meeting my group wasn't afforded the time for comments or discussion. I believe the consultants cut it short after only a few minutes of community input, promising to send me a copy of the presentation so I could submit my comments to you. That being the case, please consider the following as my input on this discussion. You ask me to let you know what I think, and I think the alternatives identified as the "final alternatives" miss the mark.

#### **Durbin Street:**

This presentation reveals as the two "final alternatives" that both have a center turn lane and parallel parking. I am disappointed that these made the finals, as I believe the BEST option is Alternative 8, for the following reasons:

- A follow up discussion with Ms. Scroggins occurred with MPO Staff to clarify her comments and that her experience at the meetings for this project were more positive and professional than her previous experience.
- An alternative for Wolcott Street which retains angled parking has been retained in the final report/ recommendations
- See responses above regarding the requests for additional onstreet parking spaces

- Parking: This increases parking by converting one side from parallel parking to perpendicular parking. I believe any reasonable opportunity the city has to increase parking in downtown Casper should be seized upon.
- Bike lanes: This does not include bike lanes, and while these are certainly "trendy" the infrequent use of the bike lanes south of Collins do not justify continuing these through this project.
- Center turn lane: This plan does not include a center turn lane; however, I think these are an unnecessary luxury.
- Drive lane width: This plan includes wide drive lanes (16' each) which will make navigation easier.
- NOTE: I believe the consultants have an error on the Alternative 8 slide. It lists as a benefit "parallel and perpendicular parking remains" BUT I believe currently there is parallel parking on both sides and no perpendicular parking. They should list as a benefit: "Increases parking in Downtown Casper." (In my opinion, this inaccuracy is rather substantial given what I believe to be a general community outcry for additional parking in the area. This error alone might have impacted this option not making the final selection.)

#### Wolcott Street:

The presentation you sent did not include any alternatives for Wolcott Street other than the two identified as final alternatives. Again, having attended a meeting but not given the time for input (as you recall the consultants cut it short during discussions because they had a conflict), I don't think either of these is the BEST option for Casper. If memory serves me correctly, there was an option for Wolcott Street similar to Durbin Streets #8. I am confident the best option would be one that sacrifices both a bike lane and a turning lane in favor of slightly wider driving lanes and angled parking.

That being said, I am 100% behind converting these streets from one-way to two-way. The dynamics of our downtown area no longer support the need for these two streets having partial one-way traffic restrictions. As they are currently, the one-way sections are unsafe and are inconvenient to downtown shoppers and businesses alike.

I would love to visit with you about this project. Please feel free to call me on my cell at your earliest convenience: 307-262-0754.

Lisa Scroggins
Executive Director

P 307.237.4935 x115
E lscroggins@natronacountylibrary.
org

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E-Mail and correspondence to and from me is subject to the Wyoming Public Records Act and may be disclosed to third parties.

## PREPAREDBY









MEMO TO:

J. Carter Napier, City Manager

FROM:

Pete Meyers, Management Analyst

SUBJECT:

Proposed Capital Budget - Fiscal Year 2023

#### **Meeting Type & Date**

Council Work Session March 8, 2022

#### **Action Type**

Direction Requested

#### Recommendation

That Council review and provide guidance on the proposed capital budget for Fiscal Year 2023. \$36,306,576 of capital spending has been proposed for FY 2023.

#### **Summary**

The City's fiscal year runs from July until June. By law, every city must pass an annual budget that includes all of its annual expenses. Casper has traditionally built its budget from three functional parts: a *personnel budget*, which covers salaries and employer-paid benefits; a *capital budget*, which includes construction and the purchase of major durable items; and an *operations budget*, which includes everything else, including contractual services, operating supplies, and utilities.

The City is approaching the end of Fiscal Year 2022, so the budget for upcoming fiscal year 2023 is now being prepared. The Capital Budget will be presented now, and if it is given preliminary approval, then it will be incorporated into the full budget document along with the personnel and operational sections. That full budget document will be presented to Council at the special budget meetings, which are scheduled on May 16 and May 18.

A total of 157 projects have been included in this proposal. Some of those projects have been summarized in the following pages (see the "Selected Highlights" document), and the complete list of projects has been enclosed for Council's review.

#### **Financial Considerations**

The proposed capital budget includes \$36,306,576 of spending, with the largest amount (42%) coming from the Optional One Cent Sales Tax:

Major Funding Source		Amount	<u>%</u>
Optional One Cent Sales Tax	\$	15,329,125	42.2%
Utility Revenue	\$	9,587,220	26.4%
Federal Grants	\$	5,592,508	15.4%
Capital Reserves	\$	1,433,482	3.9%
Opportunity Funds	\$	1,310,000	3.6%
Natrona County	\$	912,000	2.5%
Other Funds	\$	721,241	2.0%
Private Grants and Donations	\$	694,500	1.9%
Cedar Impact Funds	\$	429,500	1.2%
State Grants	\$	280,000	0.8%
Natrona County School District	\$	17,000	0.05%
Total EV 2022 Canitals	ć	26 206 576	

Total FY 2023 Capital: \$ 36,306,576

#### Oversight/Project Responsibility

Jill Johnson, Financial Services Director Pete Meyers, Management Analyst

#### **Attachments**

Proposed FY 2023 Capital Budget – Summary by Functional Area

Proposed FY 2023 Capital Budget – Selected Highlights

Proposed FY 2023 Capital Budget - Complete Document

## Proposed FY 2023 Capital Budget

# Summary by Functional Area

<u>Function</u>	FY23 C	urrently Proposed Capital	FY22	Originally Adopted Capital
General City Operations	\$	2,469,000	\$	343,175
Code Enforcement	\$	33,000	\$	-
<b>Engineering Division</b>	\$	45,000	\$	-
Fleet Maintenance	\$	155,000	\$	-
Information Systems	\$	2,236,000	\$	100,000
Planning			\$	243,175
Parks and Recreation	\$	5,394,965	\$	4,408,640
Aquatics	\$	493,793	\$	433,000
<b>Buildings and Structures</b>	\$	57,500	\$	147,640
Cemetery	\$	91,000	\$	221,000
Ford Wyoming Center	\$	1,459,000	\$	410,000
Fort Caspar Museum	\$	-	\$	75,000
Hogadon Ski Area	\$	120,250	\$	15,000
Ice Arena	\$	47,000	\$	176,000
Municipal Golf Course	\$	629,000	\$	186,000
Parks	\$	1,992,172	\$	2,624,000
Recreation Center	\$	298,250	\$	77,500
Weed & Pest	\$	207,000	\$	43,500
Public Safety	\$	2,882,011	\$	5,204,900
Animal Control	\$	216,267	\$	-
Fire EMS Department	\$	996,753	\$	930,000
Police Administration	\$	1,611,517	\$	4,177,900
<b>Public Safety Communications</b>	\$	57,474	\$	97,000
Public Transit	\$	940,191	\$	589,000
Public Transit	\$	940,191	\$	589,000
River	\$	1,951,000	\$	779,140
River Fund	\$	1,951,000	\$	779,140
Streets	\$	10,082,189	\$	4,646,250
Streets	\$	10,082,189	\$	4,646,250
Utility Funds	\$	12,587,220	\$	12,176,089
Balefill	\$	1,880,520	\$	3,854,299
Refuse Collection	\$	2,321,200	\$	1,552,490
Wastewater Collections	\$	1,150,000	\$	1,204,700
Wastewater Treatment Plant	\$	2,702,000	\$	1,921,000
Water Distribution	\$	4,533,500	\$	3,643,600
Total Original Capital		\$ 36,306,576		\$ 28,147,194

#### Proposed FY 2023 Capital Budget

## Selected Highlights

Certain projects were deemed to be of particular interest to Council and to the public. Those projects are summarized here.

#### STREET PROJECTS

<u>Midwest Avenue Reconstruction – Walnut to Poplar (\$2,210,189)</u> – This project would completely reconstruct a two-block section of Midwest Avenue. \$2 million of funding will be federal "Surface Transportation Program Urban System" Funds (STPU), which have been allocated to this project by the Casper Area MPO Policy Committee. These funds require a 9.51% local match, which will be provided from Capital Reserves.

<u>Wolf Creek Road Improvements (\$910,000)</u> – This project will reconstruct Wolf Creek Road from 40<sup>th</sup> Street to CY Avenue. The project will repair existing asphalt and concrete gutters, but it will also bring the street up to design standards by adding sidewalk. This lack of sidewalk is one of the largest walkability gaps previously identified by the MPO.

Wolf Creek Road was built within the County, but it was transferred to the City in 2014. At that time it was already understood that Wolf Creek Road would need significant improvement, so the transferal agreement included a requirement that the county pay \$769,000 to the City to help cover those improvement costs. That payment will now be utilized, along with \$141,000 from One Cent 16.

Other Miscellaneous Street Projects (\$6,133,000) – Eleven other street construction projects have also been scheduled. Funding for these will come from the \$15.4 million of street repair monies as designated by the original One Cent 16 resolution, plus \$200,000 of Opportunity Funding (for the E Street Extension):

Mariposa Boulevard - Ridgecrest to Brookview	\$590,000
Bryan Stock Trail Cape Seal	\$175,000
Coffman Ave from Essex to 25th Street	\$1,146,000
Westridge Drive Improvements	\$1,040,000
East 21st Street Improvements	\$401,000
College Drive Improvements	\$376,000
East 2nd Street Cape Seal - Hat Six to Wyoming Boulevard	\$805,000
Oak Street Improvements - CY to 14th	\$900,000
Center St Decorative Light Upgrade	\$50,000
E Street Extension	\$200,000
12th St Cape Seal	\$450,000
	\$6,133,000

<u>Streets Equipment (\$829,000)</u> – This proposal also includes \$829,000 for Streets Division equipment, including two tandem axle dump trucks, a snow blower, and \$109,000 for various pieces of traffic equipment.

#### GENERAL INFRASTRUCTURE PROJECTS

<u>Miscellaneous Water Line Replacement (\$2,500,000)</u> — This is the annual water line replacement project, and it is funded entirely by One Cent 16. These funds will eventually be divided up and paired with accompanying street projects.

<u>Fiber Network Phase II (\$2,000,000)</u> – This project will establish a fiber optic network that will connect City Hall to at least eleven other city facilities. The new cabling promotes resiliency through greater network redundancy. The project involves contracting for this expansion with a local broadband provider, which will have the effect of expanding the fiber footprint throughout the community. Having a larger fiber footprint means that, in addition to providing long term internet access for city government, private users along the line will also benefit by gaining access to an additional provider of high speed internet services.

Funding for broadband featured prominently in both ARPA and the federal infrastructure bill. Federal funding is therefore anticipated, but a specific grant has not yet been identified.

<u>First Street Gateway River Project (\$1,621,000)</u> – This project will be the second phase of a river revitalization project involving the riverfront from Poplar Street to the BNSF bridge. The entire project creates a park and recreation area that includes a riverfront trail with a trailhead parking lot, a river overlook, landscaping/bankscaping, river access, and other park amenities. The project is expected to be a catalyst for development in the area.

It is anticipated that the primary source of funding will be a federal Land and Water Conservation Fund Grant (LWCF) in the amount of \$980,000. The project will also use \$51,000 from the River Fund, \$377,000 of One Cent 15 funding that had been previously allocated to river projects, and \$143,000 of grant funding from the Natrona County Recreation Joint Powers Board. Other grants and contributions are also anticipated.

Wastewater Treatment Plant, Secondary Rehab Phase 2 (\$1,500,000) – This project will replace 48-inch steel piping throughout the Wastewater Treatment Plant. The funding comes from the Wastewater Treatment Plant's general revenue.

#### **PUBLIC SAFETY VEHICLES**

<u>Police Cars – 18 Marked Units (\$1,451,789)</u> – This project would replace eighteen marked police cars, to include both the vehicle itself (\$36,835 each) and its associated equipment (\$43,819 each). The funding for this includes \$161,309 of One Cent 16 funding as originally set aside for police vehicles and equipment, plus \$1,290,479 of One Cent 16 funding that was originally designated for police station design.

Other Fire and Police Vehicles (\$805,495) – In addition to the marked police cars, various other public safety vehicles are also being funded by this proposal, including:

3 Metro Animal Control Trucks

\$216,267

1 Fire Dept. Utility Terrain Vehicle (UTV)

\$30,000

	\$805.495
4 Unmarked Police Cars	\$159,728
3 Fire Dept. Support Vehicles	\$199,500
1 Fire Dept. Brush Truck Replacement	\$200,000

MAJOR RENOVATIONS AND BUILDING PROJECTS

Ford Wyoming Events Center Rehabilitation (\$1,459,000) - Ten projects are being proposed for the Ford Wyoming Center. The majority of the funding will come from One Cent 16 (\$1,093,000), but another significant amount is being contributed by the FWC's operations manager, Global Spectra (\$332,000).

#### The projects include:

- The replacement of the south walkway (\$736,000), which is a 3" thick concrete deck that runs along the outside of the southern edge of the building;
- A remodel of the north corner, which will provide plumbing and utility access for temporary vendors that often operate from that location during major events (\$120,000);
- A replacement of the volleyball courts (\$100,000), which will be funded with a mix of One Cent 16 dollars, funding from Global Spectra, funding from the School District, and funding from Proud to Host the Best.

	One Cent #16	Global Spectra	Other Sources
South Walkway Replacement	\$736,000		
ADA Ramp from East Parking Lot		\$60,000	
Kitchen Convection Oven Replacement	\$113,000		
Volleyball Court Replacement	\$49,000	\$17,000	\$34,000
Concession Ice Machines	\$31,000		
Bypass System Replacement		\$75,000	
New Boiler Exhaust Venting	\$128,000		
Box Office ADA Windows Replacement	\$36,000		
North Corner Remodel		\$120,000	
Portable LED Directional Signs		\$60,000	
	\$1,093,000	\$332,000	\$34,000

<u>Water Distribution Garage – Secondary Building (\$1,300,000) –</u> The primary operational building for the Water Distribution team is known as the Water Garage. This is a mixed-use building featuring equipment storage, shop space, and office space. The building is located on Wyoming Boulevard, near to the Water Treatment Plant. In 2019 it was anticipated that the Water Meter team would be moving into this building, so to accommodate that additional workforce, the Council authorized \$1,000,000 to construct a Water Garage building addition. Since that time, the design firm Amundsen Associates LLC advised that the existing building would not be able to handle this sort of renovation. They suggested that a new building would be more feasible, but

this option will require an additional \$1,300,000, for a total project budget of \$2,300,000. The original \$1,000,000 for this project, and the additional \$1,300,000, will come from normal utility revenue.

<u>Paradise Valley Pool Gutter (\$471,793)</u> – The edge of the Paradise Valley Pool is surrounded by a stainless steel gutter. This gutter is meant to catch and retain pool water, but at Paradise Valley, the gutter has begun to fail, and it is becoming detached from the sides of the pool. Replacing the gutter system will cost \$471,793. \$140,000 of One Cent 16 money is available for this project; the balance of \$331,793 will be funded from Capital Reserves.

#### OPPORTUNITY FUNDED PROJECTS

In 2015, \$9,000,000 of surplus One Cent 14 funding was used to establish the Opportunity Fund. These funds have occasionally been used for special projects that are of particular interest to the Council. For FY 2023, four projects are being proposed for Opportunity funding:

<u>Citywide Baseline Central Controller (\$610,000)</u> - A Baseline irrigation system was installed at City Hall in 2020. The idea was to use an intelligent watering system to that would adapt to current conditions, especially soil moisture, to prevent overwatering of the lawn and the landscaped areas. Two seasons of field testing has convinced Parks staff that citywide intelligent watering could reduce water consumption by as much as 30%.

Opportunity funds are being proposed for this project because the return on investment appears to be strong. The Parks Division is budgeted to spend \$415,000 on water this year. A 30% reduction in water purchases would recoup the initial investment in less than five years.

Golf Cart Fleet Replacement (\$400,000) – The Municipal Golf Course leases a fleet of seventy golf carts. The annual lease payment is currently only \$13,165, and with annual golf cart revenue expected to to reach \$230,000 in FY 2022, the golf cart operation is highly profitable. These profits are used to subsidize other aspects of the Municipal Golf Course's operation.

Unfortunately, the current leased fleet is near the end of its lifecycle. Leasing a new fleet would cost about \$56,000 per year, which is a dramatic annual increase. Instead of renewing the lease, staff is recommending that a new fleet be purchased. The purchase would allow the golf course to remain operationally profitable, and projections suggest that the six-year total cost to own will be \$69,000 less than the six-year total cost to lease.

**E Street Extension (\$200,000)** – This project will extend E Street westward from its current juncture at Center Street. It is hoped that this will enhance the gateway to downtown from Center and I-25.

<u>Recreational Fitness Area (\$100,000)</u> – This project will involve upgrading a room in the Casper Recreation Center so that it could accommodate a variety of modern fitness classes. The additional classes should generate revenue that would create a positive return on investment for this project.

# FISCAL YEAR 2023 CITY OF CASPER PROPOSED CAPITAL PLAN

July 2022 - June 2023

## **Navigation Assistance:**

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# **SECTION 1:**

# **CAPITAL PROJECT DETAILS**

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2030023004 - Pickup Truck Replacement	(\$40,000)	186
2030023005 - FY23 Misc Sewer Main Replacement	(\$1,000,000)	187
2030023006 - FY23 Lift Station Pump and Panel Re	(\$30,000)	189
2030023007 - Vactor Decant Pump	(\$15,000)	190
2030023008 - Sewer Line Assessment Tool	(\$30,000)	191
	(\$1,150,000)	
Wastewater Treatment Plant		
2040023001 - Bar Nunn #1 Lift Station Generator	(\$90,000)	192
2040023003 - FY23 Equipment Replacements	(\$125,000)	193

		Page
2040023005 - FY23 Dewatering Building HVAC Repla	(\$150,000)	194
2040023007 - Concrete Repairs	(\$25,000)	195
2040023008 - Secondary Rehab Phase 2	(\$1,500,000)	197
2040023009 - Roll-off Box Replacement	(\$12,000)	198
2040023010 - Lift Station Communication Upgrade	(\$25,000)	199
2040023011 - Utility Cart Replacement	(\$15,000)	200
2040023012 - DAFT Pressure Tank	(\$40,000)	201
2040023014 - Sludge Conveyor and Auger Replaceme	(\$100,000)	202
2040023015 - AB Blower Control Upgrade	(\$150,000)	203
2040023016 - AB Basin Cleaning and Diffuser Repl	(\$80,000)	204
2040023017 - Skidsteer Replacement	(\$75,000)	205
2040023018 - Dump Truck Purchase	(\$90,000)	206
2040023019 - RWWS Interceptor Improvements	(\$150,000)	207
2040023020 - Transformer Replacement	(\$75,000)	208
	(\$2,702,000)	
Water Distribution		
2010021014 - Water Dist Garage - Secondary Bldg	(\$1,300,000)	209
2010023001 - FY23 Misc Water Main Replacements	(\$2,500,000)	210
2010023003 - FY23 Over Sizing Reimbursement	(\$50,000)	212
2010023005 - FY23 Paving	(\$175,000)	214
2010023006 - Extended Cab Pickup Replacement	(\$35,000)	215
2010023007 - Backhoe Replacement	(\$200,000)	216
2010023008 - Water Line Utility Locator	(\$7,500)	217
2010023009 - Power Mole Boring Machine	(\$6,000)	218
2010023010 - Water Sample Test Station Replacem	(\$13,000)	219
2010023011 - Fire Hose Replacement	(\$7,000)	220
2010023012 - Meter Service Inventory Shelving	(\$15,000)	221
2010023014 - FY23 Water Line Materials	(\$125,000)	222
2010023015 - FY23 Booster Station Improvements	(\$100,000)	223
	(\$4,533,500)	
Weed & Pest		
1100022001 - Replace Pickup 83251	(\$120,000)	224
1100023002 - Replace 81059 Slope Mower	(\$69,000)	226
1100023003 - Replace 83243 Maxey Trailer	(\$18,000)	227
1 /	(\$207,000)	
	<u> </u>	

FY 2023 Grand Total: (\$36,306,576)

Work Group Animal Control
Project Name 3 Metro Trucks

**Project Type** Self Managed Project

Project Number 1017123002

**Description** Purchase 3 Metro trucks to update fleet.

**Justification** Replace 3 Metro trucks that have exceeded 100,000 miles and maintenance and repair costs

are exceeding vehicle value. Metro Animal Control requests that outdated units be removed

from operational fleet.

#### **Budget Summary**

			¢216 267	¢216.267
	1050002	EQUIPMENT	\$135,642	\$135,642
1017123002	1017100	VEHICLES	\$80,625	\$80,625
Project	Expenditures		2023	Total

\$216,267 \$216,267

Project	Funding Source	2023	Total
1017123002	OTHRFNDRES	(\$216,267)	(\$216,267)

(\$216,267) (\$216,267)

Measure	Response	Unweighted Score	Weight	Weighted Score
3 Metro Trucks				27
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Aquatics

**Project Name** CFAC - New Leisure Pool Pump

**Project Type** Self Managed Project

Project Number 2210023002

**Description** Purchase replacement pump

**Justification** Need a replacement pump incase the current one fails. Pumps usually take 2 to 3 weeks to

be ordered, made, and shipped to Casper. It takes 4-8 hours to install a new pump.

#### **Budget Summary**

Project		Expenditures	2023	Total
2210023002	221	EQUIPMENT	\$8,000	\$8,000
			\$8.000	\$8.000

Project	Funding Source	2023	Total
2210023002	OneCent#16 OC SWIMREC	(\$8,000)	(\$8,000)

(\$8,000) (\$8,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
CFAC - New Leisure Poo				9
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	None	0	3	0
Unfunded Percentage	100	0	0	0

Work Group Aquatics

**Project Name** MK Pool - New Main Pool Pump

**Project Type** Self Managed Project

Project Number 2210023003

**Description** Purchase replacement pump.

Justification Need a replacement pump incase the current one fails. Pumps usually take 2 to 3 weeks to

be ordered, made, and shipped to Casper. It takes 4-8 hours to install a new pump.

#### **Budget Summary**

			\$7,000	\$7,000
2210023003	221	EQUIPMENT	\$7,000	\$7,000
Project		Expenditures	2023	Total

Project	Funding Source	2023	Total
2210023003	OneCent#16 OC SWIMREC	(\$7,000)	(\$7,000)

(\$7,000) (\$7,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
MK Pool - New Main Po	ol			9
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	None	0	3	0
Unfunded Percentage	100	0	0	0

Work Group Aquatics

**Project Name** W Pool - New Main Pool Pump

**Project Type** Self Managed Project

Project Number 2210023004

**Description** Purchase Replacement Pump

**Justification** Need a replacement pump incase the current one fails. Pumps usually take 2 to 3 weeks to

be ordered, made, and shipped to Casper. It takes 4-8 hours to install a new pump.

#### **Budget Summary**

Project		Expenditures	2023	Total
2210023004	221	EQUIPMENT	\$7,000	\$7,000
			\$7,000	\$7,000

Project	Funding Source	2023	Total
2210023004	OneCent#16 OC SWIMREC	(\$7,000)	(\$7,000)

(\$7,000) (\$7,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
W Pool - New Main Pool				9
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	None	0	3	0
Unfunded Percentage	100	0	0	0

Work Group Aquatics

**Project Name** PV Pool - Gutter Replacement

**Project Type** Engineering Project

Project Number 2210024003

**Description** Replace the stainless steel gutters at Paradise Valley.

**Justification** The gutter systems at Paradise Valley Swimming Pool leak and are no longer completely

attached to the pool. There isn't a way to fix all of the leaks or reattach the gutter to the pool

shell.

#### **Budget Summary**

				\$471 793	\$471 793
22	210024003	221	MATERIALS INSTALL	\$471,793	\$471,793
	Project	Expenditures		2023	Total

Project	Funding Source	2023	Total
2210024003	CAP RESERV	(\$331,793)	(\$331,793)
	OneCent#16 OC SWIMREC	(\$140,000)	(\$140,000)

(\$471,793) (\$471,793)

Measure	Response	Unweighted Score	Weight	Weighted Score
PV Pool - Gutter				15
Capital Action	Replace	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

Work Group Balefill

Project Name Landfill Fencing
Project Type Engineering Project

**Project Number** 2060021003

#### **Description**

Annual fencing improvements are planned for the next ten (1) years to improve litter control with portable litter fencing. Litter fencing downwind of lined landfill cells #3 and #4 has gaps where windblown material gets through to the open fields and there is no litter fencing between the lined and unlined landfill cell. When wind changes direction from the prominent southwest direction, windblown material gathers in the unlined landfill cell and falls on Amoco property west of the landfill. To reduce litter downwind and upwind, additional litter fencing is needed. Ten (10) portable litter fences are needed to eliminate gaps in litter fencing downwind of landfill cells #3 and #4 and a minimum of 20 portable litter fences are needed to significantly reduce windblown litter reaching the unlined landfill cell and neighboring Amoco property. In addition, upgrading the landfill property boundary fence is planned over the next 10 years. The City landfill property is required by Wyoming Department of Environmental Quality (WDEQ) to have a property boundary fence. The landfill property boundary fence is 3-strand wire fencing and was installed in the early 1990s. The 3-strand wire fence has been ineffective at stopping litter from blowing onto neighboring property and from preventing neighbor's cattle and horses from entering landfill property. To reduce landfill litter from depositing onto neighboring property and neighbor's cattle and horses from entering City landfill property, a closed fabric fencing upgrade is needed.

#### **Justification**

WDEQ landfill permit regulations require landfill owners to prevent windblown litter from reaching neighboring property and to prevent the accumulation of windblown litter on landfill property. The City has received notification of deficiencies related to litter prevention and control in recent years. To meet the City's WDEQ permit requirements for managing litter, it is necessary to 1.) eliminate litter fence gaps downwind of landfill cells #3 and #4, 2.) upgrade landfill property fence with 6-foot-high chain link fence, and 3.) prevent litter from reaching the unlined landfill cell.

Project	Expenditures	2023	2024	2025	Total
2060021003	2060043	\$122,520	\$122,520	\$122,520	\$367,560
		\$122,520	\$122,520	\$122,520	\$367,560
Project	Funding Source	2023	2024	2025	Total
2060021003	BALEFILRES	(\$122,520)	(\$122,520)	(\$122,520)	(\$367,560)
		(\$122,520)	(\$122,520)	(\$122,520)	(\$367,560)

Measure	Response	Unweighted Score	Weight	Weighted Score
Landfill Fencing				20
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	None	0	2	0
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Balefill

**Project Name** GPS for Landfill Equipment

**Project Type** Engineering Project

Project Number 2060022020

#### Description

The City solid waste division currently operates landfill equipment used for spreading cover without GPS capabilities; therefore, placing cover material is estimated by the operator. To reduce operator error and save landfill space, the landfill skidsteer and road grader need to be equipped with GPS capabilities. The landfill compaction equipment was recently equipped with GPS software and hardware in FY20 and FY21. To add GPS to the current software system for one (1) piece of equipment, costs \$52,000.

#### **Justification**

In addition to providing equipment operators a tool for performing their work more precisely, the GPS software allows the superintendent and supervisor to monitor cover, compaction/density and waste placement operational quality. This results in improved waste compaction and decreased cover material being used resulting in saved landfill capacity. In addition, adding GPS hardware to waste placement equipment shall significantly improve waste placement tracking so wastes during a particular time frame may be narrowed to a precise location. Adding GPS hardware to the landfill tracksteer, road grader and loader is planned for FY22-FY24.

Project	Expenditures	2023	2024	2025	Total
2060022020	2060043 EQUIPMENT	\$53,000	\$54,000	\$55,000	\$162,000
		\$53,000	\$54,000	\$55,000	\$162,000
Project	Funding Source	2023	2024	2025	Total
2060022020	BALEFILRES	(\$53,000)	(\$54,000)	(\$55,000)	(\$162,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
GPS for Landfill				18
Capital Action	New Cap	0	0	0
Capital Type	Tech	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group Balefill

**Project Name** Portable Variable Sign-Replacement

Project Type Fleet Project
Project Number 2060022021

**Description** 

The Casper Solid Waste Facility owns two (2) portable variable electronic signs. The two (2) signs frequently need light boards replaced and the wait time for light boards is 6 to 9 months. The signs are used throughout the facility to assist customers with traffic directions.

**Justification** 

Upgrading the two (2) portable electronic signs with improved technology will extend the life of light boards and increasing the usage for assisting customers with traffic directions. The estimated cost to upgrade the portable signs is \$30,000 per unit. Extending the life cycle of the light boards is estimated to save up to \$20,000 per year resulting in the capital purchase being paid for in 3 years.

		(\$60,000)	(\$60,000)
2060022021	BALEFILRES	(\$60,000)	(\$60,000)
Project	Funding Source	2023	Total
		\$60,000	\$60,000
2060022021	2060043 EQUIPMENT	\$60,000	\$60,000
Project	Expenditures	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
Portable Variable Sign-				15
Capital Action	Replace	0	0	0
Capital Type	OtherCap	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Balefill

**Project Name** Wheel Loader Replacement

Project Type Fleet Project
Project Number 2060022026

#### **Description**

The Casper Solid Waste Facility has six (6) front-end wheel loaders supporting landfill, composting and baling operations. The landfill operations has four (4) front-end wheel loaders including a loader used to offload baled waste transported from the baler building, a loader used in the biosolids composting facility for mixing wood chips and sludge (biosolids) transported from the wastewater plant, a loader used in the lined landfill to move garbage from customer drop off locations to the active landfill face, and the fourth front-end wheel loader is designated as a backup loader and to be used when special waste projects are scheduled for disposal in the unlined landfill. The baler building (Pit Area) and compost yard each have a dedicated front-end wheel loader used in the transfer station operations. Front-end wheel loaders have a life cycle of 5 to 7 years depending on the operational environment, such as loaders used to push and mix garbage (baler building pit area), to mix biosolids, and to push garbage in the landfill. are scheduled every 5 years for replacement.

#### Justification

The Balefill equipment replacement schedule was developed using industry standards and to minimize operational downtime and maximize operational efficiencies by evaluating the life time maintenance costs, age and hours of use of the equipment. The four (4) of the six (6) solid waste front-end wheel loaders are expected to meet the criteria for replacement from FY22-FY25.

\$365,000 \$375,000 \$385,000 \$1,125,0  Project Funding Source 2023 2024 2025 Total			(\$365,000)	(\$375.000)	(\$385.000)	(\$1,125,000
2060022026 2060043 EQUIPMENT \$365,000 \$375,000 \$385,000 \$1,125,0 \$365,000 \$375,000 \$385,000 \$1,125,0	2060022026	BALEFILRES	(\$365,000)	(\$375,000)	(\$385,000)	(\$1,125,000)
2060022026 2060043 EQUIPMENT \$365,000 \$375,000 \$385,000 \$1,125,0	Project	Funding Source	2023	2024	2025	Total
			\$365,000	\$375,000	\$385,000	\$1,125,000
Project Expenditures 2023 2024 2025 Total	2060022026	2060043 EQUIPMENT	\$365,000	\$375,000	\$385,000	\$1,125,000
	Project	Expenditures	2023	2024	2025	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
Wheel Loader				13
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	Low	1	2	2
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Balefill

Project NameBale Haul TrucksProject TypeFleet Project

Project Number 2060023004

**Description** 

The City baler building has two (2) trucks specifically designed to haul baled garbage from the baler building to the landfill. Eight (8) trailer loads of baled wastes are transported to the landfill on an average day. Both trucks are continuously used throughout the day.

**Justification** 

The trucks used for hauling baled garbage are over twelve years old and require significant repairs due to aging. The trucks are estimated to meet the City's requirement for replacement in FY23. The cost for replacement is estimated at \$120,000 per truck

#### **Budget Summary**

		\$240,000	\$240,000
2060023004	2060045	\$240,000	\$240,000
Project	Expenditures	2023	Total

Project	Funding Source	2023	Total
2060023004	BAI FEILRES	(\$240,000)	(\$240,000)

(\$240,000) (\$240,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Bale Haul Trucks				13
Capital Action	Replace	0	0	0
Capital Type	OtherCap	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	Low	1	2	2
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Balefill

**Project Name** Road Grader Purchase

Project Type Fleet Project
Project Number 2060023005

**Description** The 20-year old road grader used by the landfill team is used to maintain

landfill roads and customer drop off areas, and is used to spread cover when

the dozer or skidsteer are impractical or unavailable.

**Justification** The Road Grader replacement schedule was developed using industry

standards and to minimize operational downtime and maximize operational efficiencies by evaluating the life time maintenance costs, age and hours of use of the equipment. The road grader is expected to meet the criteria for replacement in FY23 and refurbishing the road grader will significant be less

costly than replacement.

#### **Budget Summary**

		\$300,000	\$300,000
2060023005	2060043	\$300,000	\$300,000
Project	Expenditures	2023	Total

Project	Funding Source	2023	Total
2060023005	BALEFILRES	(\$300,000)	(\$300,000)

(\$300,000) (\$300,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Road Grader Purchase				22
Capital Action	Improve	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Balefill

**Project Name** 906 Loader for MRF

Project Type Fleet Project
Project Number 2060023006

#### Description

The Solid Waste Division owns one (1) 906 Caterpillar loader and one (1) forklift dedicated to Material Recovery Facility (MRF) operations. A second comparable loader is needed as a backup for the loader and forklift for when the loader and forklift are out of service for maintenance or repairs. A second loader would need to be equipped with a fork attachment to serve as a backup forklift.

#### **Justification**

Increasing the solid waste fleet by purchasing a loader to act as a backup loader and forklift for the MRF operations will eliminate shutting down operations. Shutting down MRF operations for forklift and loader maintenance and repairs creates a significant storage problem and safety hazard. The MRF does not have extra storage capacity to accumulate paper recycling commodities if baling operations are shut down.

		(\$45,000)	(\$45,000)
2060023006	BALEFILRES	(\$45,000)	(\$45,000)
Project	Funding Source	2023	Total
		\$45,000	\$45,000
2060023006	2060045 VEHICLES	\$45,000	\$45,000
Project	Expenditures	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
906 Loader for MRF				5
Capital Action	New Cap	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	Low	1	2	2
Financial Impact	None	0	1	0
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group Balefill

**Project Name** Lighting Replacement to LED

**Project Type** Self Managed Project

Project Number 2060023013

**Description** Lighting in the Special Waste Facility buildings was installed during construction in 2009.

Lighting fixtures are planned for replacement in 2023 include replacing with LED fixtures and

bulbs.

**Justification** 

To reduce electrical costs for operating light fixtures by more than half, staff plans to replace light fixtures at the Special Waste facility with LED fixtures. The capital cost to replace light

fixtures with LED fixtures is estimated to be recovered in less than five (5) years.

#### **Budget Summary**

Project	E	xpenditures	2023	Total
2060023013	2060044	MATERIALS	\$20,000	\$20,000
			\$20,000	\$20,000

Project	Funding Source	2023	Total
2060023013	BALEFILRES	(\$20,000)	(\$20,000)

(\$20,000) (\$20,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Lighting Replacement to	)			7
Capital Action	Improve	0	0	0
Capital Type	OtherCap	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	None	0	2	0
Financial Impact	None	0	1	0
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group Balefill

**Project Name** Solid Waste Asphalt Improvements

**Project Type** Engineering Project

**Project Number** 2060023015

**Description** 

Asphalt Improvements throughout the solid waste facility are planned for the next 5-years. Asphalt improvements include crack sealing and mill & overlay activities for maintenance, a new entrance to the compost products yard, additional turning area for commercial and residential customers at the baler building, and lining storm water ditches at the compost yard.

**Justification** 

Maintaining roads is essential at the solid waste facility to keep customer traffic safe and overall customer satisfaction high. Adding additional asphalt at the compost products yard shall reduce customer line time and at the baler building shall significantly reduce customer backing incidents. Lining the southeast corner storm water ditch at the compost yard will significant reduce the maintenance time for clearing out wind-blown material.

Project	Expenditures	2023	2024	2025	Total
2060023015	2060043	\$150,000	\$150,000	\$150,000	\$450,000
		\$150,000	\$150,000	\$150,000	\$450,000
Project	Funding Source	2023	2024	2025	Total
	· ·				
2060023015	BALEFILRES	(\$150,000)	(\$150,000)	(\$150,000)	(\$450,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Solid Waste Asphalt				26
Capital Action	improve	0	0	0
Capital Type	othercap	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Moderate	2	2	4
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Balefill

**Project Name** Storm Water Infrastructure Imp.

**Project Type** Engineering Project

**Project Number** 2060023016

**Description** Storn

Storm water ditches are located throughout the Casper Solid Waste Facility including along landfill customer roads, compost yard areas, and transfer station roads. Solid Waste staff does not have the resources to annually clean, replace erosion control features, regrade, and repair storm water ditches. Staff recommends contracting a local vendor to perform this work annually.

**Justification** 

The City of Casper holds three (3) industrial operational storm water permits including operations at the City Service Center, Solid Waste Facility and Wastewater Treatment Plant. The City Solid Waste Facility Industrial Storm water Permit requires maintenance of storm water ditches.

Project	Expenditures	2023	2024	2025	Total
2060023016	206 STORMINFRA	\$150,000	\$30,000	\$30,000	\$210,000
		\$150,000	\$30,000	\$30,000	\$210,000
Project	Funding Source	2023	2024	2025	Total
<b>Project</b> 2060023016	Funding Source BALEFILRES	<b>2023</b> (\$150,000)	<b>2024</b> (\$30,000)	<b>2025</b> (\$30,000)	<b>Total</b> (\$210,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Storm Water				10
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	None	0	2	0
Financial Impact	None	0	1	0
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Balefill

**Project Name** Scale House Exit Renovation

**Project Type** Self Managed Project

**Project Number** 2060023017

### **Description**

The scale house located at the Casper Regional Solid Waste Facility has a customer access window to check in every customer entering the facility. The customer access window includes a speaker and electronic drawer for placing payments so customers may check in without leaving their vehicle and coming into the building. For customers who have to weigh out before paying, the customer must leave their vehicle on the exit scale and enter the scale house. Staff plans to design and construct an exit access window to allow customers to pay from their vehicles instead of coming into the scale house.

#### Justification

The Casper Police Department recommended reducing the need for customers to enter the scale house as a safety precaution. If customers pay from a customer access window, it will reduce entry and exiting the building and decrease the demand for heating and cooling. Staff estimates an annual reduction in heating and cooling costs at the scale house by \$500 to \$1,500.

\$50,000 \$50,000  Project Funding Source 2023 Total			(\$50,000)	(\$50,000)
2060023017 2060043 MATERIALS \$50,000 \$50,000 \$50,000	2060023017	BALEFILRES	(\$50,000)	(\$50,000)
2060023017 2060043 MATERIALS \$50,000 \$50,000	Project	Funding Source	2023	Total
			\$50,000	\$50,000
Project Expenditures 2023 Total	2060023017	2060043 MATERIALS	\$50,000	\$50,000
	Project	Expenditures	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
Scale House Exit				12
Capital Action	Improve	0	0	0
Capital Type	Ops	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group Balefill

Project Name WTR & WWTR Svc lines Cmpst Bldg

**Project Type** Self Managed Project

**Project Number** 2060023018

#### Description

The compost yard building is utilized to store and maintain equipment associated with compost operations. The building is heated and used to perform preventative daily pre- and post-inspections and minor maintenance repairs. Two (2) employees are dedicated to the compost operations and the employees must travel to the baler building for drinking water and restrooms. A water and sewer main were installed during the baler building expansion project; therefore, a water and sewer service line may be tied into the compost equipment building from the main line. Staff plan to construct a small breakroom and bathroom for employees use.

#### **Justification**

Construction of a small breakroom and bathroom in the compost yard equipment building will improve employee morale and reduced time traveling to other buildings.

		(\$50,000)	(\$50,000)
2060023018	BALEFILRES	(\$50,000)	(\$50,000)
Project	Funding Source	2023	Total
		\$50,000	\$50,000
2060023018	2060044 MATERIALS	\$50,000	\$50,000
Project	Expenditures	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
WTR & WWTR Svc lines				7
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	None	0	2	0
Financial Impact	None	0	1	0
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group Balefill

Project Name Upgrade garage doors
Project Type Self Managed Project

**Project Number** 2060023019

#### **Description**

Garage doors located at the Baler Building for commercial doors numbers 5-9 and baler equipment door number 13 are 24 feet in height and are exposed to adverse environmental hazards, such as high dust concentrations. High dust concentrations require weekly maintenance of the tracks and motors. To reduce weekly maintenance costs and increase motor life, local garage door experts recommend upgrading the doors to include enclosed/air tight motors and tracks. Staff plans to replace and upgrade a door at a time.

#### **Justification**

Replacing five (5) garage doors over a 5-year period is estimated to increase garage door life from 2.5 years to 10 years, and reduce weekly maintenance time in half from 4 hours per week to 2 hours per week.

Project	Ex	penditures	2023	2024	2025	Total
2060023019	2060045	EQUIPMENT	\$38,000	\$38,000	\$38,000	\$114,000
			\$38,000	\$38,000	\$38,000	\$114,000
Project	Fund	ding Source	2023	2024	2025	Total
<b>Project</b> 2060023019	Fund		<b>2023</b> (\$38,000)	<b>2024</b> (\$38,000)	<b>2025</b> (\$38,000)	<b>Total</b> (\$114,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Upgrade garage doors				14
Capital Action	Improve	0	0	0
Capital Type	Building	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	None	0	1	0
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Balefill

**Project Name** Compact Tractor "Ventrac" Mower

Project Type Fleet Project
Project Number 2060023020

**Description** 

The Casper Regional Solid Waste Facility includes several storm water draining ditches requiring a specialized mower to mow vegetation from steep slopes. The City Parks Division owns one (1) specialized mower and this mower is not available to use for solid waste as Parks' employees utilize the mower for their operations.

**Justification** 

Purchase of a Ventrac mower for solid waste maintenance of storm water ditches will allow solid waste staff to mow vegetation. Mowing storm water ditches routinely through the vegetation growing season it estimated to significantly reduce vectors, improved litter collection and reduced employee safety hazards.

Project	Expenditures	2023	Total
2060023020	2060044 EQUIPMENT	\$32,000	\$32,000
		\$32,000	\$32,000
Project	Funding Source	2023	Total
2060023020	BALEFILRES	(\$32,000)	(\$32,000)
		(\$32,000)	(\$32,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Compact Tractor				2
Capital Action	New Cap	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	None	0	2	0
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	None	0	3	0
Unfunded Percentage	0	0	0	0

**Work Group** 

Balefill

**Project Name** 

Water Truck

**Project Type** 

Fleet Project

**Project Number** 

2060023021

#### **Description**

The Balefill Fund owns one (1) water truck dedicated to compost yard operations. Over the last 10 years the water truck demand for use has doubled including use for dust suppression at the landfill and fire prevention at the biosolids yard. Staff recommends expanding the fleet to include two (2) water trucks in order to dedicate a water truck to landfill operations.

#### **Justification**

The biosolids composting facility experiences the majority of spontaneous combustion fires between the compost yard and biosolids yard. Staff has implemented several operational changes to reduce spontaneous combustion of fires at the biosolids yard including reduced sized windrows, adding sand as a feedstock to windrows, and when possible increased turning of windrows. Adding a second water truck to be dedicated to the landfill operations including dust suppression and rapid response fire suppression at the biosolids yard. Dust suppression is required in the City's landfill and air permits and rapid response fire suppression at the biosolids yard is critical to control and extinguish fires quickly.

#### **Budget Summary**

			\$120,000	\$120,000
2060023021	2060044	EQUIPMENT	\$120,000	\$120,000
Project	E	kpenditures	2023	Total

Project	Funding Source	2023	Total
2060023021	BALEFILRES	(\$120,000)	(\$120,000)

(\$120,000) (\$120,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Water Truck				6
Capital Action	New Cap	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group Balefill

**Project Name** Landfill Supervisor Truck

Self Managed Project

Project Number 2060023022

**Description** 

**Project Type** 

The Balefill Fund owns one (1) pickup truck dedicated to landfill supervisor activities, unit 141481, purchase in 2008. Staff plans to replace and upgrade the unit 141481 in FY23. An upgrade from a 3/4 ton to a one (1) ton truck is required to pull the landfill fuel trailer.

**Justification** 

Unit 141481 meets the City fleet criteria for replacement. Currently the fuel trailer is pulled by a 950 Caterpillar Loader. Changing the landfill operations so the fuel trailer is pulled by the supervisor truck is estimated to reduce fuel usage. The cost difference to upgrade from a 3/4 ton to a 1-ton truck is estimated to be recovered within eight (8) years and replacement criteria are typically met on pickup trucks within 10 to 15 years.

#### **Budget Summary**

Project         Expenditures         2023         Total           2060023022         2060043 VEHICLES         \$85,000         \$85,000           \$85,000         \$85,000         \$85,000           Project         Funding Source         2023         Total           2060023022         BALEFILRES         (\$85,000)         (\$85,000)			(\$85,000)	(\$85,000)
2060023022 2060043 VEHICLES \$85,000 \$85,000 \$85,000	2060023022	BALEFILRES	(\$85,000)	(\$85,000)
2060023022 2060043 VEHICLES \$85,000 \$85,000	Project	Funding Source	2023	Total
			\$85,000	\$85,000
Project Expenditures 2023 Total	2060023022	2060043 VEHICLES	\$85,000	\$85,000
	Project	Expenditures	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
Landfill Supervisor Truck				16
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

**Work Group** Buildings and Structures

**Project Name** Installation of BACnet system

**Project Type** Self Managed Project

Project Number 2520022006

**Description** Connect mechanical equipment at the Metro Animal Shelter and Ice Arena to the City's

BACNet network.

**Justification** The mechanical equipment at many City facilities are connected to BACNet, a

communications system that allows Buildings and Structures (BAS) to remotely monitor those systems. The ability to remotely monitor mechanical systems allows technicians to view the operations of those systems, detect problems around the City, and prioritize the

work of BAS staff making them more effective and efficient.

#### **Budget Summary**

			\$7.500	\$7.500
2520022006	252	TECHNOLOGY	\$7,500	\$7,500
Project		Expenditures	2023	Total

Project	Funding Source	2023	Total
2520022006	OTHRFNDCUR	(\$7,500)	(\$7,500)
		(\$7,500)	(\$7,500)

Measure	Response	Unweighted Score	Weight	Weighted Score
Installation of BACnet				15
Capital Action	Improve	0	0	0
Capital Type	Tech	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	High	3	1	3
Funding Status	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

Work Group

Buildings and Structures

Project Name

Replace vehicle #084031

Project Type Fleet Project
Project Number 2520023001

**Description** Vehicle #084031 is 15+ years old and is in need of replacement.

This vehicle is currently 15 years old, is beginning to rust, is not 4-wheel drive and meets all of metrics for replacement established by the Fleet Department. The vehicle not having 4 wheel drive either limits the work that can be done or is a safety hazard depending on the

conditions.

#### **Budget Summary**

Project	Expenditures		2023	Total
2520023001	252	VEHICLES	\$50,000	\$50,000
			\$50.000	\$50.000

Project	Funding Source	2023	Total
2520023001	CAP RESERV	(\$50,000)	(\$50,000)

(\$50,000) (\$50,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Replace vehicle #084031				17
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	High	3	1	3
Funding Status	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

**Work Group** Cemetery

**Project Name** Cemetery Mower - Unit 90965

**Project Type** Fleet Project **Project Number** 1019122002

**Description** REPLACING UNIT #90965 CEMETERY MOWER

**Justification** MEETS REQUIREMENTS FOR REPLACEMENT ON AGE 8YRS OLD, HOURS 2300, AND COST OF

MAINTENANCE \$19,303.42. LARGE MOWER IS A ASSET TO MOWING THE LARGE OPEN

AREAS INSIDE CEMETERY GROUNDS. MOWER IS IN THE SHOP MORE THAN NOT.

#### **Budget Summary**

1019122002		Expenditures  1019100 EQUIPMENT		<b>Total</b> \$52,000
1019122002	1019100	LQOIFIVILIVI	\$52,000 <b>\$52.000</b>	\$52,000 \$ <b>52.000</b>

Project	Funding Source	2023	Total
1019122002	CAP RESERV	(\$52,000)	(\$52,000)

(\$52,000) (\$52,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Cemetery Mower - Unit				13
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	100	0	0	0

Work Group Cemetery

**Project Name** Replace UTV/Sprayer 83293

**Project Type** Fleet Project **Project Number** 1019123002

Description

Replace unit 83293 UTV Gator and Sprayer

**Justification** 

Unit 83293 a 2012 John Deere Gator with a sprayer used for delivering widespread weed control in special areas, open areas in Parks, Rails to Trails, and side walks around town. Unit meets all criteria for replacement.

#### **Budget Summary**

		-	\$39.000	\$39,000
	1019100	ITEMS	\$7,000	\$7,000
1019123002	1019100	EQUIPMENT	\$32,000	\$32,000
Project	Ex	xpenditures	2023	Total

Project	Funding Source	2023	Total
1019123002	CAP RESERV	(\$39,000)	(\$39,000)

#### **Priority Score**

Measure	Response	Unweighted Score	Weight	Weighted Score
Replace UTV/Sprayer				17
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Low	1	2	2
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	100	0	0	0

(\$39,000)

(\$39,000)

Work Group Code Enforcement

Project Name CODE ENFRC FLEET VEHICLE REPLACEMNT

Project Type Fleet Project
Project Number 1016123001

**Description** Cod

Code enforcement supervisor is requesting a Ford Edge 2023 or equivalent.

**Justification** 

Safety: Code Enforcement sedan is a hand-me-down electric sedan (2012). It is not reliable in mobility and/or access in certain areas of the City where the Code Enforcement supervisor is dispatched. Code Enforcement needs a more appropriate vehicle for field work. The 2012 sedan will be turned over to Fleet Services for their in-town use. This is a replacement project request, not maintenance.

#### **Budget Summary**

			\$33,000	\$33,000
1016123001	1016100	VEHICLES	\$33,000	\$33,000
Project	E	xpenditures	2023	Total

Project	Funding Source	2023	Total
1016123001	OneCent#16 OC CATC	(\$33,000)	(\$33,000)

(\$33,000) (\$33,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
CODE ENFRC FLEET				28
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Unknown	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	100	0	0	0

**Work Group** Engineering Division

**Project Name** 2022 Standard Specifications Update

**Project Type** Self Managed Project

**Project Number** 1015123011

**Description** Update to Concrete, Water, Sewer, Storm, and Traffic for the 2006 City of

Casper Standard Specifications for Public Works Construction and

Infrastructure Improvements to include current infrastructure requirements.

**Justification** 

The 2006 City of Casper Standard Specifications for Public Works Construction and Infrastructure Improvements (2006 City Specs) is in need of revisions to reflect current needs for standard installations, materials, and other infrastructure requirements. The 2006 City Specs are referenced for engineering, planning, construction and development in Casper, and the update is needed to keep consistency with current requirements and operation needs.

(\$45,000)

(\$45,000)

#### **Budget Summary**

Project	Expenditures	2023	Total
1015123011	1015000 STREET DESIGN	\$45,000	\$45,000
		\$45,000	\$45,000
Project	Funding Source	2023	Total
1015123011	OneCent#16 OC STREET	(\$45,000)	(\$45,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
2022 Standard				19
Capital Action	Improve	0	0	0
Capital Type	OtherCap	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

**Work Group** Fire EMS Department

**Project Name** 50 Replacement Portable Radios

**Project Type** Self Managed Project

Project Number 1018021006

**Description** This project replaces the portable radios carried by firefighters while on-duty and during

emergency operations.

**Justification** The majority of the department's current radios were purchased in January 2014. It is

expected that maintenance and repair costs will increase and newer technology will be

available and/or required to meet the needs of the fire department.

#### **Budget Summary**

			\$260 753	\$260 753
1018021006	1018001	EQUIPMENT	\$260,753	\$260,753
Project	Expenditures		2023	Total

Project	Funding Source	2023	Total
1018021006	OneCent#16 OC FIRE	(\$260,753)	(\$260,753)

(\$260,753) (\$260,753)

Measure	Response	Unweighted Score	Weight	Weighted Score
50 Replacement Portable	e			17
Capital Action	Replace	0	0	0
Capital Type	Ops	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

**Work Group** Fire EMS Department

**Project Name** Station 1 Breathing Air Compressor

**Project Type** Self Managed Project

**Project Number** 1018021007

**Description** The breathing air compressors are used to fill SCBA air bottles with breathing air. This

project replaces the compressor at Station 1

**Justification** The current compressor at Station 1 is 20 years old and has required repair and overhaul in

recent years and is due for replacement due to wear and tear.

#### **Budget Summary**

			\$85 500	\$85 500
1018021007	1018001	EQUIPMENT	\$85,500	\$85,500
Project	E	Expenditures		Total

Project	Funding Source	2023	Total
1018021007	CAP RESERV	(\$85,500)	(\$85,500)

(\$85,500) (\$85,500)

Measure	Response	Unweighted Score	Weight	Weighted Score
Station 1 Breathing Air				17
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	100	0	0	0

**Work Group** Fire EMS Department

**Project Name** Utility Terrain Vehicle (UTV)

**Project Type** Fleet Project **Project Number** 1018021013

**Description** This project replaces the department's current UTV that is 15 years old.

**Justification** The current UTV is 15 years old and is used for response to the Platte River Parkway as well as for snow removal in the winter. The UTV is outfitted with a rack that can carry a patient

and also has a slide-in pump and water tank unit for use on small wildland fires.

#### **Budget Summary**

Project	E	Expenditures		Total
1018021013	1018001	VEHICLES	\$30,000	\$30,000
			\$30.000	\$30.000

Project	Funding Source	2023	Total
1018021013	CEDARIMPAC	(\$30,000)	(\$30,000)

(\$30,000) (\$30,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Utility Terrain Vehicle				19
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	100	0	0	0

**Work Group** Fire EMS Department

**Project Name** St. 2 Sewer Service Replacement

**Project Type** Engineering Project

Project Number 1018022001

**Description** New Station 2 was tied into an old sewer service that did not have adequate slope for proper

drainage which causes sewage to back up into the station periodically when the holding tank

becomes full.

**Justification** Holding tank is designed to empty into the sewer system, but due to inadequate slope it has

to be pumped out periodically to prevent sewage backup into the station.

#### **Budget Summary**

				\$30,000	\$30,000
1018022001	1018001	BUILDING	REPAIR	\$30,000	\$30,000
Project	Expenditures		2023	Total	

Project	Funding Source	2023	Total
1018022001	Perp Care	(\$30,000)	(\$30,000)

(\$30,000) (\$30,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
St. 2 Sewer Service				17
Capital Action	Maintain	0	0	0
Capital Type	Building	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Low	1	2	2
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	100	0	0	0

Work Group Fire EMS Department
Project Name Brush 6 Replacement

**Project Type** Fleet Project **Project Number** 1018022002

**Description** Brush 6 is due for replacement due to age, mileage and repair costs. The skid

unit on the back will be moved to the new chassis

**Justification** The current Brush 6 is an extended cab truck that has had numerous

powertrain issues. A crew cab would be a safer cab configuration for personnel. Brush 6 has 50,680 miles on it. It was purchased for \$73,811.00 on October 4th, 2002. \$90,359.03 has been spent on maintenance and repair costs. Brush 6 is a critical type VI brush truck that is versatile in the urban interface environment. Brush 6 is also a great asset to deploy on federal fires

to generate revenue.

#### **Budget Summary**

Project	Expenditures	2023	Total
1018022002	1018001 VEHICLES	\$200,000	\$200,000
		\$200,000	\$200,000
Project	Funding Source	2023	Total
1018022002	CEDARIMPAC	(\$200,000)	(\$200,000)

(\$200,000) (\$200,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Brush 6 Replacement				19
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	100	0	0	0

**Work Group** Fire EMS Department

**Project Name** Annual Turnout Gear Replacements

**Project Type** Self Managed Project

Project Number 1018023004

**Description** Firefighter turnout gear (bunker pants and coats) is the gear firefighters wear

in structure fires and other immediately dangerous to life and health atmospheres. All Fire-EMS personnel are issued a set of turnout gear.

Justification

-NFPA 1851 standard recommends turnout gear to be replaced every 10 years. The Fire-EMS Department has 73 members who are issued turnout gear. -The department requires a steady source of funding to replace turnout gear to include gear in reserve when frontline gear is being washed. This replacement project will replace approximately eight (8) sets of gear each year.

#### **Budget Summary**

Project	E	xpenditures	2023	Total
1018023004	1018001	EQUIPMENT	\$19,000	\$19,000
			\$19,000	\$19,000

		(\$19,000)	(\$19,000)
1018023004	OneCent#16 OC FIRE	(\$19,000)	(\$19,000)
Project	Funding Source	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
Annual Turnout Gear				19
Capital Action	Replace	0	0	0
Capital Type	Ops	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

**Work Group** Fire EMS Department

**Project Name** Station 6 Extractor and Gear Dryer

**Project Type** Self Managed Project

Project Number 1018023009

**Description** 

This project adds a turnout gear extractor and dyer to Fire Station 6. The extractor is the industrial washing machine that remove toxins and other contaminates from firefighting gear. The cabinet dryer dries the protective gear.

**Justification** 

The addition of an extractor and dryer facilitates keeping turnout gear clean per NFPA standards. Having extractors and dryers at outlying stations allows for crews to decontaminate their gear without leaving their response area and reduces the amount of downtime that gear is out of service for cleaning.

#### **Budget Summary**

			\$22.000	\$22,000
1018023009	1018001	EQUIPMENT	\$22,000	\$22,000
Project	E	xpenditures	2023	Total

\$22,000	\$22,000

Project	Funding Source	2023	Total
1018023009	OneCent#16 OC FIRE	(\$22,000)	(\$22,000)

(\$22,000) (\$22,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Station 6 Extractor and				13
Capital Action	New Cap	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	Low	1	2	2
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Fire EMS Department
Project Name Fire Station 1 Rehab
Project Type Engineering Project

**Project Number** 1018023011

#### **Description**

-This project will make necessary improvements to Station 1 that are needed for it to remain functional. Improvements needed are a kitchen remodel, front bathroom remodel, parking lot replacement & exterior renovation to include exterior doors, windows, garage door replacement, new façade.

#### Justification

-The kitchen area at station one is not functional given the number of personnel assigned to the station. This project recommends enhancing the kitchen area to provide more functional space in the kitchen/dining area and replace cabinets and countertops. Estimated cost: \$55,000 based on two bids. -The front bathroom needs remodeled as it is the primary bathroom used by the public during station tours. The bathroom needs a new vanity, mirror & toilet along with touchless fixtures and paper towel dispensers. Estimated cost \$5,000-12,000 based on two bids

Additional associated costs up to \$25,000 for contractor and engineering fees. -The parking lot has several pot holes that keep reappearing and streets is recommending mill & overlay and reconstruction of main rear drive area. \$150,000

-Exterior wood siding, rock veneer, front sign, exterior doors, windows and all garage doors need replaced due to age and annual maintenance costs. Estimated cost \$200,000.

#### **Budget Summary**

Project	E	xpenditures	2023	Total
1018023011	1018001	BUILDING REPAIR	\$75,000	\$75,000
			\$75,000	\$75,000
Project	Fui	nding Source	2023	Total

1018023011 CAP RESERV (\$75,000) (\$75,000) (\$75,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Fire Station 1 Rehab				17
Capital Action	Improve	0	0	0
Capital Type	Building	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	High	3	1	3
<b>Funding Status</b>	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

Work Group Fire EMS Department

**Project Name** Drill Tower Concrete Ex Pad

**Project Type** Self Managed Project

**Project Number** 1018023014

**Description** 60 x 120 concrete extrication pad for the Regional Fire Training Facility.

**Justification** An extrication pad will make training safer by having a stable surface to work on as well as

facilitate the clean up of debris from vehicle extrication evolutions.

#### **Budget Summary**

1018023014 1018001 STREET BUILD \$75,000 \$75,000	1010001 0111=11 101=1	1018023014	1018001	STREET	BUILD	\$75,000	\$75,000
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Project	Funding Source	2023	Total
1018023014	CAP RESERV	(\$75,000)	(\$75,000)

(\$75,000) (\$75,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Drill Tower Concrete Ex				10
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	Low	1	2	2
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

**Work Group** Fire EMS Department

**Project Name** 3 Replacement Support Vehicles

**Project Type** Self Managed Project

**Project Number** 1018023015

**Description** Replace three (3) vehicles currently assigned to Chief 2, Chief 4 and the Training Captain.

**Justification** It is expected the current vehicles will meet the age and miles replacement criteria by the time of actual replacement. These vehicles are currently assigned to 2 Chief Officers and 1

Training Captain and used for response to incidents and on a daily basis and for inspection

& community risk reduction activities.

#### **Budget Summary**

		¢100 E00	¢100 E00
1018023015	1018001 VEHICLES	\$199,500	\$199,500
Project	Expenditures	2023	Total

**\$199,500 \$199,500** 

Project	Funding Source	2023	Total
1018023015	CEDARIMPAC	(\$199,500)	(\$199,500)

(\$199,500) (\$199,500)

Measure	Response	Unweighted Score	Weight	Weighted Score
3 Replacement Support				20
Capital Action	Replace	0	0	0
Capital Type	Ops	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Low	1	2	2
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

Work GroupFleet MaintenanceProject NameTire Bay Lift RepairProject TypeSelf Managed Project

Project Number 2510023001

#### **Description**

This project involves removal of the existing embedded channels with the adjacent sections of floor slab and replacement with new channels. An opinion of \$40,000 per lift to remove cylinder and associated equipment, saw-cut and demolish the existing slab with existing channels, saw-cut and demo/ replace the top portion of the pit walls, replace slab with new channels, and re-install the lift equipment.

#### **Justification**

Deteriorating pit walls below the embedded channels that carry both lift cylinders. Both cylinder flanges have been compromised by spalling concrete.

#### **Budget Summary**

			\$80,000	\$80,000
2510023001	251	EQUIPMENT	\$80,000	\$80,000
Project		Expenditures	2023	Total

Project	Funding Source	2023	Total
2510023001	CAP RESERV	(\$80,000)	(\$80,000)

(\$80,000) (\$80,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Tire Bay Lift Repair				27
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	100	0	0	0

Work Group Fleet Maintenance

**Project Name** Portable Lifts Replacement

**Project Type** Self Managed Project

Project Number 2510023002

**Description** Currently have Two in ground lift systems that are out of date, falling into disrepair, and can

be undated to newer style portable above ground lifts.

**Justification** removal of older style hydraulic lifts that can leak fluids and deteriorate under heavy loads.

New style lifts can be put into their place without the use of fluids.

#### **Budget Summary**

Project		Expenditures	2023	2024	2025	Total
2510023002	251	EQUIPMENT BUILD		\$20,000	\$20,000	\$40,000
	251	EQUIPMENT	\$75,000	\$75,000	\$75,000	\$225,000
			\$75.000	\$95,000	\$95.000	\$265.000

Project	Funding Source	2023	2024	2025	Total
2510023002	CAP RESERV	(\$75,000)	(\$95,000)	(\$95,000)	(\$265,000)

(\$75,000) (\$95,000) (\$95,000) (\$265,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Portable Lifts				22
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Unknown	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	100	0	0	0

**Work Group** Ford Wyoming Center

**Project Name** South Walkway Replacement

**Project Type** Engineering Project

**Project Number** 2260021001

**Description** 

Replace South walkway concrete and sub membrane and seal. Repair and

reseal East concrete deck.

**Justification** 

The South walkway is a concrete deck that runs past the outer door to the administrative offices. This deck is believed to be a three inch concrete slab over a layer of insulation, which is in turn laid upon a structural slab with supporting struts.

The upper slab has been repaired numerous times on a seasonal basis, but it is deteriorating. Pot holes are now common around ponding spots and drains. These lead to tripping hazards on the surface and they allow water to penetrate to the lower level. Rain and snow melt causes leaks through the ceiling over the administrative offices, the liquor storage room, and the Three Trails banquet rooms.

This project would replace the upper slab and the underlying insulation layer. The insulation layer would be augmented with a waterproof membrane. Replacing the slab should result in lower maintenance costs for the building. Interior water damage is evident at many locations, especially in the liquor storage room. Buckets are permanently in place at various locations.

#### **Budget Summary**

Project	Expenditures	2023	Total
2260021001	1015000 BUILDING	\$736,000	\$736,000
		\$736,000	\$736,000
Project	Funding Source	2023	Total
2260021001	OneCent#16 OC SWIMREC	(\$736,000)	(\$736,000)
		(\$736,000)	(\$736,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
South Walkway				25
Capital Action	Maintain	0	0	0
Capital Type	Building	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	100	0	0	0

**Work Group** Ford Wyoming Center

**Project Name** ADA Ramp from East Parking Lot

**Project Type** Engineering Project

**Project Number** 2260021003

#### **Description**

This project would install an ADA ramp along the stairs from parking lot #11 to the Banquet (NE) entrance of the Casper Events Center.

In order to make this a complete and separated means to enter the Events Center, an ADA-compliant concrete ramp would need to be installed along one side of the stairway. The ramp would be 92 feet long with four level landing areas; each landing area would be five feet long. A 40 foot long retaining wall might also be needed, depending the ramp's final configuration.

#### **Justification**

Global Spectrum has put forth a desire to designate Parking Lot #11 as the Casper Events Center's VIP parking area. Lot #11 is in the northeast corner of the building. Individuals who park in this lot currently access the building via a long set of concrete steps that are not ADA accessible. The primary ADA accessible entrance to the building is through the main doors on near the box office on the north side of the building.

#### **Budget Summary**

			(\$60,000)	(\$60,000)
2260021003	PRIVATE		(\$60,000)	(\$60,000)
Project	Funding Sour	ce	2023	Total
			\$60,000	\$60,000
2260021003	1015000 PATHWAY	BUILD	\$60,000	\$60,000
Project	Expenditure	S	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
ADA Ramp from East				11
Capital Action	Improve	0	0	0
Capital Type	Building	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	None	0	1	0
Funding Status	Unknown	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	100	0	0	0

**Work Group** Ford Wyoming Center

**Project Name** Kitchen Convection Oven Replacement

**Project Type** Self Managed Project

**Project Number** 2260021009

**Description** Replace one combi double oven, two double industrial ovens, and six hotboxes in main

kitchen area.

**Justification** Existing units are 35 years of age and have out lived their intended lifespan. These units are

critical to the successful operation of the food and beverage services at FWC.

#### **Budget Summary**

				\$113,000	\$113,000
22600210	009	226	EQUIPMENT	\$113,000	\$113,000
Proje	ect		Expenditures	2023	Total

Project	Funding Source	2023	Total
2260021009	OneCent#16 OC SWIMREC	(\$113,000)	(\$113,000)

(\$113,000) (\$113,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Kitchen Convection Ove	n			16
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	None	0	3	0
Unfunded Percentage	100	0	0	0

**Work Group** Ford Wyoming Center

Project Name Volleyball Court Replacement

**Project Type** Self Managed Project

**Project Number** 2260021015

**Description** Replace the sportcourt used for volleyball, cheer, and other state tournaments.

The \$100,000 investment will likely be shared with Proud to Host the Best.

**Justification**The condition of the existing sportcourt has deteriorated to the point is is not

a safe playing surface. The sportcourt is essential to state tournaments hosted by the FWC. As such, partial funding can be expected from Proud to Host the Best and the Natrona County School District to ensure this court is safe for

High School athletes.

#### **Budget Summary**

Project		Expenditures	2023	Total
2260021015	226	EQUIPMENT	\$100,000	\$100,000
			\$100,000	\$100,000

Project	Funding Source	2023	Total
2260021015	OneCent#16 OC SWIMREC	(\$49,000)	(\$49,000)
	PRIVATE	(\$34,000)	(\$34,000)
	SCHOOLDIST	(\$17,000)	(\$17,000)
<u> </u>			

(\$100,000) (\$100,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Volleyball Court				10
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	None	0	3	0
Unfunded Percentage	100	0	0	0

Work Group Ford Wyoming Center
Project Name Concession Ice Machines

**Project Type** Self Managed Project

**Project Number** 2260021016

**Description** Replace the old ice machines in the concession areas.

**Justification** Current ice machines have outlived their intended life, are inefficient, and cannot keep up

with the demands of the food and beverage operations.

#### **Budget Summary**

Project		Expenditures	2023	Total
2260021016	226	EQUIPMENT	\$31,000	\$31,000
			\$31,000	\$31,000

Project	Funding Source	2023	Total
2260021016	OneCent#16 OC SWIMREC	(\$31,000)	(\$31,000)

(\$31,000) (\$31,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Concession Ice Machine	S			10
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	None	0	3	0
Unfunded Percentage	100	0	0	0

**Work Group** Ford Wyoming Center

**Project Name** Bypass System Replacement

**Project Type** Technology Project

Project Number 2260022002

**Description** 

Current Bypass POS needs new hardware and software to meet upgrades required by the system. Especially important to these upgrades are the implementation of touchless sales transaction features that being required by our Local and State Health Departments.

**Justification** 

Without the upgrades our current system will become obsolete and we will not be able to meet current Local and State Health Department requirements. \$25,000 was invested in FY22 to begin the upgrades.

#### **Budget Summary**

Project		Expenditures	2023	Total
2260022002	226	TECHNOLOGY	\$75,000	\$75,000
			\$75,000	\$75,000

\$75,000	\$75,000

Project	Funding Source	2023	Total
2260022002	PRIVATE	(\$75,000)	(\$75,000)

(\$75,000) (\$75,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Bypass System				21
Capital Action	Replace	0	0	0
Capital Type	Tech	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

**Work Group** Ford Wyoming Center

**Project Name** FWC New Boiler Exhaust Venting

**Project Type** Engineering Project

Project Number 2260023001

**Description** 

Replace the main vertical exhaust vent for all the boilers at the Events Center. The existing exhaust venting runs through the attic up to the roof, consequently it is very difficult to get to and very difficult to try to repair. HVAC contractor indicates the best solution is to replace the entire main vertical section of exhaust venting with all new exhaust venting.

**Justification** 

The main vertical exhaust vent for all the boilers at the Events Center is rusting badly on the outside layer of the metal jacketing and is leaking out acidic fluid on to the floor. This is a safety concern as this exhaust venting could also be leaking out dangerous carbon monoxide gases into the mechanical room. This exhaust venting is supposed to be air-tight. The interior stainless steel has become unsealed and both air and acidic fluid is leaking out of the opening. Then this acidic fluid hits the galavanized steel outer portion and rusts out the metal and leaks out.

#### **Budget Summary**

Project		Expenditures	2023	Total
2260023001	226	EQUIPMENT INSTALL	\$128,000	\$128,000
			\$128,000	\$128,000
Project	Funding Source		2023	Total
2260023001	OneC	Cent#16 OC SWIMREC	(\$128,000)	(\$128,000)
			(\$128,000)	(\$128,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
FWC New Boiler Exhaust				23
Capital Action	Maintain	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Low	1	2	2
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

**Work Group** Ford Wyoming Center

**Project Name** FWC Box Office ADA Windows Repl

**Project Type** Engineering Project

Project Number 2260023002

Description

Replace Box Office Windows to be ADA compliant and include speak-through holes.

**Justification** 

The current box office windows are not ADA compliant. There is no low counter/or window that can assist a guest in a wheelchair. Additionally, there are no speakers in the windows to allow for conversations between box office staff and customers. Individuals must talk through the passthrough under the windows in order to hear each other.

### **Budget Summary**

Project		Expenditures	2023	Total
2260023002	226	BUILDING INSTALL	\$36,000	\$36,000
			\$36,000	\$36,000

Project	Funding Source	2023	Total
2260023002	OneCent#16 OC SWIMREC	(\$36,000)	(\$36,000)

(\$36,000) (\$36,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
FWC Box Office ADA				11
Capital Action	Improve	0	0	0
Capital Type	Building	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	None	0	1	0
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group Ford Wyoming Center
Project Name North Corner Remodel
Project Type Engineering Project

Project Number 2260023003

**Description** Remodel the North corner of the building with electrical and plumbing

needed to accept permanent food vendor stands. Push the vestibule

northwest to provide line of site to new stands and improve flow through this

area of the building.

**Justification** Temporary vendor stands are currently set up in the north corner of the

building. Permanent utilities to this stand will decrease setup time and create more valuable vendor space to sell for events. The existing vestibule blocks line of site to these stands for people coming from the east and creates a dangerous bottleneck for people walking through this part of the building.

#### **Budget Summary**

Project	Expenditures		2023	Total
2260023003	226	BUILDING MODIFY	\$120,000	\$120,000
			\$120,000	\$120,000

Project	Funding Source	2023	Total
2260023003	PRIVATE	(\$120,000)	(\$120,000)

(\$120,000) (\$120,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
North Corner Remodel				18
Capital Action	Improve	0	0	0
Capital Type	Building	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

**Work Group** Ford Wyoming Center

**Project Name** FWC Portable LED Directional Signs

**Project Type** Engineering Project

**PRIVATE** 

Project Number 2260023004

**Description** Procure portable LED directional signage for the Ford Wyoming Center.

**Justification** Signage will promote events at the FWC as well as provide customers and event staff with

directional information regarding parking and entry.

### **Budget Summary**

Project		Expenditures	2023	Total
2260023004	226	EQUIPMENT	\$60,000	\$60,000
			\$60,000	\$60,000

Project	Funding Source	2023	Total

(\$60,000) (\$60,000)

(\$60,000)

### **Priority Score**

2260023004

Measure	Response	Unweighted Score	Weight	Weighted Score
FWC Portable LED				10
Capital Action	NEW CAP	0	0	0
Capital Type	TECH	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	HIGH	3	2	6
Financial Impact	LOW	1	1	1
Funding Status	FULLY	0	0	0
Safety Impact	LOW	1	3	3
Unfunded Percentage	0	0	0	0

(\$60,000)

Work Group Hogadon Ski Area

**Project Name** Snow Farming

**Project Type** Self Managed Project

Project Number 2250022001

**Description** Truck load, 10,000 board feet of 1x8x16 kiln dried pine lumber and metal

fasteners.

**Justification** 

The rebuilding and building of snow fences is a key aspect of Hogadon winter operation. As seen in this marginal snow season 2020 the ski area would solely need to rely on manmade snow 7% and leaving 93% of the area to natural and snow fence farming.

In the last three season Hogadon staff has rebuild 10,000 board feet of fencing with is roughly 50% of what still needs to be done.

#### **Budget Summary**

			\$18,250	\$18,250
2250022001	2250002	2250002 MATERIALS BUILD		\$18,250
Project	E	xpenditures	2023	Total

Project	Funding Source	2023	Total
2250022001	PRIVATE	(\$18,250)	(\$18,250)

(\$18,250) (\$18,250)

Measure	Response	Unweighted Score	Weight	Weighted Score
Snow Farming				26
Capital Action	Maintain	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	100	0	0	0

Work Group Hogadon Ski Area

**Project Name** Utility Terrain Vehicles

Project Type Fleet Project
Project Number 2250022003

**Description** Utility Terrain Vehicles

**Justification** Replace one of the two UTV's Hogadon currently has that are becoming less dependable

### **Budget Summary**

Project	Expenditures	2023	Total
2250022003	2250002 VEHICLES	\$38,000	\$38,000
		\$38,000	\$38,000

Project	Funding Source	2023	Total
2250022003	CAP RESERV	(\$38,000)	(\$38,000)

(\$38,000) (\$38,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Utility Terrain Vehicles				23
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Low	1	2	2
Financial Impact	Moderate	2	1	2
<b>Funding Status</b>	Unknown	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	100	0	0	0

Work Group Hogadon Ski Area
Project Name Replace Tracked ATV

Project Type Fleet Project
Project Number 2250023001

**Description** Replace tracked ATV with tracked UTV.

**Justification** By replacing the ATV with a UTV it will be a lot safer for transporting injured skiers.

### **Budget Summary**

Project		Expenditures	2023	Total
2250023001	225	EQUIPMENT	\$42,000	\$42,000
			\$42,000	\$42,000

Project	Funding Source	2023	Total
2250023001	CAP RESERV	(\$42,000)	(\$42,000)

(\$42,000) (\$42,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Replace Tracked ATV				25
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	100	0	0	0

Work GroupHogadon Ski AreaProject NameStain Wooden BeamsProject TypeSelf Managed Project

Project Number 2250023002

**Description** Stain the wooden beams on the exterior of the lodge

**Justification** Wood is currently deteriorating and needs stained

### **Budget Summary**

Project		Expenditures	2023	Total
2250023002	225	BUILDING	\$22,000	\$22,000
			\$22,000	\$22,000

Project	Funding Source	2023	Total
2250023002	CAP RESERV	(\$22,000)	(\$22,000)

(\$22,000) (\$22,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Stain Wooden Beams				21
Capital Action	Maintain	0	0	0
Capital Type	Building	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	100	0	0	0

Work Group Ice Arena

Project Name CIA CONCESSION OVEN REPLACEMENT

**Project Type** Self Managed Project

Project Number 2230021001

**Description** REPLACE OVEN USED FOR PREPARING CONCESSION FOOD.

Justification THE EXISTING OVEN WILL REACH ITS EXPECTED LIFESPAN IN 2020. THE OVEN IS USED TO

PREPARE FOOD FOR PATRONS AND BIRTHDAY PARTY RENTALS AT THE ICE ARENA.

### **Budget Summary**

			\$16,000	\$16,000
2230021001	223	EQUIPMENT	\$16,000	\$16,000
Project		Expenditures	2023	Total

Project	Funding Source	2023	Total
2230021001	OneCent#16 OC SWIMREC	(\$16,000)	(\$16,000)

(\$16,000) (\$16,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
CIA CONCESSION OVEN				22
Capital Action	Replace	0	0	0
Capital Type	Ops	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Unknown	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	100	0	0	0

**Work Group** Ice Arena

**Project Name** Accessible Walkway Fall Protection

**Project Type Engineering Project** 

**Project Number** 2230023003

**Description** 

Ice arena employees need reasonable access and fall protection above locker rooms for maintenance work on a dehumidification system located 20 ft. above the rink level.

**Justification** 

Casper Ice Arena needs access installation of a hand railing, walkway, and fall protection per OSHA inspection.

### **Budget Summary**

			\$31,000	\$31,000	
2230023003	223	BUILDING	\$31,000	\$31,000	
Project		Expenditures	2023	Total	

	-	(\$31,000)	(\$31,000)
	OTHRFNDCUR	(\$5,000)	(\$5,000)
2230023003	OneCent#16 OC SWIMREC	(\$26,000)	(\$26,000)
Project	Funding Source	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
Accessible Walkway Fall				13
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	None	0	2	0
Financial Impact	None	0	1	0
Funding Status	Unknown	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	100	0	0	0

Work Group Information Systems

Project Name Network Switch Repl - HOJ and PSCC

**Project Type** Technology Project

Project Number 1013223002

**Description** Network switch to replace the existing outdated devices in the Hall of Justice

(2023), PSCC (2023) and City Hall (2025).

**Justification** For several years, staff have been slowly phasing out a high end network

switching device with multiple smaller end units so as to improve redundancy. Support and maintenance on the existing equipment will also expire in the upcoming budget year. This device will be used at the Hall of Justice, while another one is being requested out of the PSCC budget for that location. The

final piece will be to replace the unit at City Hall in FY25.

#### **Budget Summary**

	117 TECHNOLOGY	\$13,000		\$13,000
1013223002	1013200 TECHNOLOGY	\$13,000	\$15,000	\$28,000
Project	Expenditures	2023	2025	Total

		(\$26,000)	(\$15,000)	(\$41,000)
	OTHRFNDCUR	(\$13,000)		(\$13,000)
1013223002	CAP RESERV	(\$13,000)	(\$15,000)	(\$28,000)
Project	Funding Source	2023	2025	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
Network Switch Repl -				16
Capital Action	Replace	0	0	0
Capital Type	Tech	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	None	0	2	0
Financial Impact	None	0	1	0
Funding Status	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

Work Group Information Systems

Project Name Server Upgrades FY23

Project Type Technology Project

Project Number 1013223003

**Description** Hardware and software for City's core server infrastructure

**Justification** The continual upkeep of technology is necessary to prevent failure and

address growth. Specifically in FY23, there are multiple versions of both the Microsoft Windows and SQL Database software on City servers, some of which date back to 2012. The licensing will replace the most outdated products so as to maintain support and updates from the vendor (\$25,000). Due to cost increases and materials becoming end of life, the FY22 server processor upgrade project in the amount of \$60,000 was postponed. Staff is requesting an additional \$140,000 (in addition to the existing \$60,000) to replace the entire server farm at City Hall. It's components that still have useful life will be repurposed at the backup data center, which will keep that system operational until 2025. At which time, it will need to be replaced as well.

#### **Budget Summary**

Project	Expenditures	2023	2025	Total
1013223003	1013200 TECHNOLOGY	\$165,000	\$200,000	\$365,000
		\$165,000	\$200,000	\$365,000
Project	Funding Source	2023	2025	Total
1013223003	CAP RESERV	(\$165,000)	(\$200,000)	(\$365,000)
	· · · · · · · · · · · · · · · · · · ·	(\$165,000)	(\$200,000)	(\$365,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Server Upgrades FY23				18
Capital Action	Replace	0	0	0
Capital Type	Tech	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Low	1	2	2
Financial Impact	None	0	1	0
Funding Status	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

Work Group Information Systems

Project Name City Website Redesign
Project Type Technology Project

Project Number 1013223004

**Description** Complete redesign of the CasperWY.gov website

**Justification** The existing website was created in 2013, and then refreshed by the same

vendor, CivicLive, in 2018. In addition to a new look and feel, two other driving factors for a new website are lackluster vendor support and limited capabilities with the existing content management platform. For example, many other municipal websites have the ability for citizens to sign up to receive email alerts when news items or meeting agendas are posted. This functionality does not exist for Casper. Staff intends to release an RFP and

have a team of designated staff serve on the project team.

#### **Budget Summary**

		(\$45,000)	(\$45,000)
1013223004	CAP RESERV	(\$45,000)	(\$45,000)
Project	Funding Source	2023	Total
		\$45,000	\$45,000
1013223004	1013200 TECHNOLOGY	\$45,000	\$45,000
Project	Expenditures	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
City Website Redesign				9
Capital Action	Improve	0	0	0
Capital Type	Tech	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	High	3	2	6
Financial Impact	None	0	1	0
Funding Status	Unknown	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	100	0	0	0

Work Group Information Systems
Project Name Fiber Network Phase II

**Project Type** Technology Project

Project Number 1013223005

**Description** 

Implementation of a fiber network to replace and expand upon an existing lease currently connecting City facilities.

**Justification** 

The City's current lease arrangement for fiber optics between City Hall and 10 remote sites is set to expire in 2026. At which time, the vendor will most likely direct the City towards a managed service w/ monthly recurring fees if it wants to continue using the fiber.

RFI Purpose - The City of Casper desires to improve broadband services for the community by increasing competition, building redundancy, and lowering overall costs. Fiber optic communications are currently only available in select areas of the town, and determining accessibility often requires individually contacting the limited number of providers. Additionally, the City has facilities throughout town that it desires to have fiber network access. Providing service to these locations is another opportunity for an company to expand its footprint. The City is looking for a cooperative working relationship with a vendor who has a vision for the type of economic development that can come with improved fiber based services.

#### **Budget Summary**

Project	Expenditures		2023	Total
1013223005	1013200	TECHNOLOGY	\$2,000,000	\$2,000,000
			\$2,000,000	\$2,000,000

Project	Funding Source	2023	Total
1013223005	FEDERAL	(\$2,000,000)	(\$2,000,000)

(\$2,000,000

(\$2,000,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Fiber Network Phase II				13
Capital Action	New Cap	0	0	0
Capital Type	Tech	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	Moderate	2	2	4
Financial Impact	High	3	1	3
Funding Status	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

Work Group Municipal Golf Course

**Project Name** 3 - Toro Greensmaster triplex rpl

Project Type Fleet Project
Project Number 2220021004

**Description** 3 - Triplex mowers replaced unit number 082225, 082226, 082250.

Justification 18 year old mowing units have exceeded their life expectancy and needs to be

replaced. Current manufacturer recommendations are for units to be replaced after 3500 hours, all the units we currently use have over that. New units would be more reliable and provide better cuts to the turf. These mower is used to mow tee boxes, approaches, collars and is also a back up greens mower should something happen to those current greens mowers.

#### **Budget Summary**

Project		Expenditures	2023	Total
2220021004	251	EQUIPMENT	\$168,000	\$168,000
			\$168,000	\$168,000

Project	Funding Source	2023	Total
2220021004	OneCent#16 OC PARKS	(\$80,000)	(\$80,000)
	OTHRFNDCUR	(\$88,000)	(\$88,000)

(\$168,000) (\$168,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
3 - Toro Greensmaster				19
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	100	0	0	0

Work GroupMunicipal Golf CourseProject NameCart Path ImprovementsProject TypeSelf Managed Project

Project Number 2220021015

**Description** Cart Path repairs and replacements (asphalt to concrete)

**Justification** Asphalt cart paths have deteriorated and need to be replace with concrete for longer life and

less wear and tear on golf course cart fleet, improved customer use and appreciation.

\$30000 will allow 1000 feet replacement for 5' wide cart path

### **Budget Summary**

Project	Expenditures	2023	2024	2025	Total
2220021015	2220002 PATHWAY	\$26,000	\$30,000	\$30,000	\$86,000
		\$26,000	\$30,000	\$30,000	\$86,000
Project	Funding Source	2023	2024	2025	Total
2220021015	OPPORTUNIT		(\$30,000)	(\$30,000)	(\$60,000)
	OTHRFNDCUR	(\$26,000)			(\$26,000)
		(\$26,000)	(\$30,000)	(\$30,000)	(\$86,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Cart Path Improvements				23
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

**Work Group** Municipal Golf Course

**Project Name** Driving range ball dispenser

**Project Type** Self Managed Project

**Project Number** 2220022018

**Description** 

The driving range ball dispenser dispenses golf balls to customers wanting to hit on the driving range. It is a machine that is outside of the pro shop, that customers can insert money into and receive their range balls without having to wait in line in the golf shop.

**Justification** 

The range ball dispenser will make range ball purchases more convenient to the customers. It will be outside of the pro shop so it will be more convenient if the pro shop is busy with golfers. It will also decrease person to person contact, making the area safer during COVID times. The dispenser will create smoother transactions for customers and pro shop staff.

### **Budget Summary**

Project		Expenditures	2023	Total
2220022018	222	EQUIPMENT	\$35,000	\$35,000
			\$35,000	\$35,000
Project		Funding Source	2023	Total
2220022018	CAP F	RESERV	(\$35,000)	(\$35,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Driving range ball				12
Capital Action	New Cap	0	0	0
Capital Type	Ops	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Unknown	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	100	0	0	0

Work Group Municipal Golf Course

**Project Name** 70 - Golf Cart fleet replacement

Project Type Fleet Project
Project Number 2220023022

**Description** Current Golf Cart Fleet has a lease which is about to expire, and golf cart fleet needs to be

replaced.

**Justification** Current Golf Cart Fleet has a lease which is about to expire, and golf cart fleet needs to be

replaced. Golf Cart fleet are the golf carts that customers rent for use while playing golf.

The golf cart fleet creates an average revenue of \$200,000 over the past 3 years.

### **Budget Summary**

			\$400,000	\$400,000
2220023022	251	VEHICLES	\$400,000	\$400,000
Project		Expenditures	2023	Total

Project	Funding Source	2023	Total
2220023022	OPPORTUNIT	(\$400,000)	(\$400,000)

(\$400,000) (\$400,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
70 - Golf Cart fleet				22
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Unknown	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	100	0	0	0

Work Group Parks

**Project Name** Washington Field Lights Replacement

**Project Type** Engineering Project

Project Number 1019021003

**Description** 

Replace Baseball Field lights, Wiring, Poles and related components on one baseball field. (Washington Field) current poles are rusting out, light bases are starting to crack and becoming very unsafe to players and spectators.

**Justification** 

-Benefits of changing the light structure with TLC for LED would Reduce the spill light and glare by 50% or more

-Guaranteed light levels of 50/30 in the field of play, currently the light levels are at a 11 at best.

-Control-link System for remote on/off control and performance monitoring with 24/7 customer support

-Reduction of energy and maintenance costs by 50-85%

-product assurance and warranty program that includes materials and onsite labor, eliminating 100% of our maintenance costs for 25 years.

(\$346,000) (\$346,000)

-See Attachment for lighting report

#### **Budget Summary**

Expenditures			2023	Total
1019012 SYSTEM INSTALL		1019012 SYSTEM INSTALL		\$346,000
		\$346,000	\$346,000	
Funding Source		2023	Total	
OneCent#16 OC PARKS		(\$144,000)	(\$144,000)	
OneCent#16 OC PARKS		(\$202,000)	(\$202,000)	
	1019012  Fur OneCent#	1019012 SYSTEM  Funding Sou  OneCent#16 OC PAR	1019012 SYSTEM INSTALL  Funding Source  OneCent#16 OC PARKS	1019012 SYSTEM INSTALL \$346,000 \$346,000 Funding Source 2023 OneCent#16 OC PARKS (\$144,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Washington Field Lights				26
Capital Action	Replace	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	100	0	0	0

Work Group Parks

**Project Name** Warning Track Replacement

**Project Type** Self Managed Project

**Project Number** 1019021007

Description

Replace and grade warning track at Mike Lansing Field to improve drainage, appearance and Play ability.

**Justification** 

The existing warning track was installed when the field was built in 2002 with improper material. Over the past 17 years it has become very silty and unstable. Multiple people have used a variety of products to soak up the wet spots. With the existing mixture of products, there is no uniformity for the warning track to bond together, so it separates and creates very unsafe conditions. Whenever existing material is dry, it is as hard as asphalt. When it becomes wet, it becomes slippery as soup to players. Athletic field staff has worked the warning track by tiling it and nail dragging it, but it still works up like powder. As soon as any kind of moisture hits it, the cycle repeats itself by becoming soup then when dried out becomes asphalt again. It also becomes a seed bed for weeds to grow in with the soft and hard conditions. There is no medium to keep it as a warning track as it is intended to.

We have had multiple games cancelled due to unsafe wet conditions after a rain. Our Athletic staff is unable to edge it due to lack of material that is in place. After edging is done we don't have any material to put back and it then creates at big lip that leads to a trip hazard to players and compromises a safe playing surface.

If a new warning track is installed, it will drain like it should with the slope of the field and also be very safe to the players. Maintenance costs will decrease dramatically. The need to spray the warning track for weeds weekly will also be reduced dramatically

#### **Budget Summary**

Project	E	Expenditures		Total
1019021007	1019012	MATERIALS	\$42,000	\$42,000
			\$42,000	\$42.000

		(\$42,000)	(\$42,000)
1019021007	PRIVATE	(\$42,000)	(\$42,000)
Project	Funding Source	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
Warning Track				26
Capital Action	Replace	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	100	0	0	0

Work Group Parks

**Project Name** Playground and Fall Material Repl

**Project Type** Self Managed Project

**Project Number** 1019021017

#### **Description**

Playgrounds have a rough life expectancy of 25 years each, and the city owns 48 playgrounds. This project entails replacing two playgrounds per year. Playgrounds cost between \$40,000 and \$90,000 each, depending on the size and style.

This project also envisions replacing existing fall material, which is typically either pea gravel or woodchips, with no-maintenance loose shredded rubber. Again, the goal would be to add the fall material to two playgrounds per year. Adding new fall material would cost roughly \$25,000 per playground.

#### **Justification**

The city conducts safety inspections of each playground every two months. The goal is to find and eliminate hazards of the structures before any children are hurt. A lack of playground replacement funding could leave us in the position of having to remove or cordon off an existing playground without the necessary funds to replace it.

Fall material is a secondary but equally important part of playground maintenance. Every playground requires fall material of a certain elasticity to be present. Many of the city's playgrounds are covered with either pea gravel or wood chips. These are effective, but they must be aerated regularly, and they can create a mess in the nearby grass and throughout the neighborhood. Recently built playgrounds have had artificial tiled or poured-in-place fall material placed beneath them. This is more expensive at the outset, but requires less maintenance and is more popular with the neighborhood.

A less expensive alternative to poured in place and tile is loose shredded rubber. Loose shredded rubber was installed at Susie McMurry Park 5 years ago and it doesn't blow around in the wind like the wood chips and doesn't need tilled like the pea gravel thus reducing maintenance for staff. Roughly \$19,000 per year is spent on playground maintenance, but this cost is distributed very unevenly. Six playgrounds accounted for more than a quarter of this expenditure, while at the other end of the spectrum, almost half of the city's playgrounds required no maintenance at all. A new playground that replaces an old playground should be expected to save the city from \$1,000 to \$2,000 per year in maintenance costs. This benefit is in addition to the increase in customer satisfaction that comes from using a new, modern playground.

#### **Budget Summary**

Project	Expenditures	2023	2024	2025	Total
1019021017	1019012 MATERIALS	\$62,500	\$125,000	\$125,000	\$312,500
		\$62,500	\$125,000	\$125,000	\$312,500
Project	Funding Source	2023	2024	2025	Total
1019021017	OneCent#16 OC PARKS	(\$62,500)			(\$62,500)
	OPPORTUNIT		(\$125,000)	(\$125,000)	(\$250,000)
		(\$62,500)	(\$125,000)	(\$125,000)	(\$312,500)

Measure	Response	Unweighted Score	Weight	Weighted Score
Playground and Fall				17
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	High	3	2	6
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

**Work Group Parks** 

**Project Name** Miscellaneous Park Improvements

**Project Type** Self Managed Project

**OPPORTUNIT** 

**Project Number** 1019021018

**Description** 

This funding would be made available to fund general repairs in city parks.

**Justification** 

The City has 47 formal parks, each with playgrounds, picnic structures, lighting, drainage issues, irrigation systems, pavilions, and many other amenities. These items age, degrade, and eventually need replaced. This funding would be used to repair or replace general issues and items within the city parks, and it would be available to make modest enhancements should the need arise.

### **Budget Summary**

Project	Expenditures	2023	2024	2025	Total
1019021018	1019012 SYSTEM	\$37,500	\$100,000	\$100,000	\$237,500
		\$37,500	\$100,000	\$100,000	\$237,500
Project	Funding Source	2023	2024	2025	Total
1019021018	OneCent#16 OC PARKS	(\$37,500)			(\$37,500)

(\$100,000)(\$100,000)(\$200,000)

(\$37,500) (\$100,000) (\$100,000) (\$237,500)

Measure	Response	Unweighted Score	Weight	Weighted Score
Miscellaneous Park				11
Capital Action	Improve	0	0	0
Capital Type	OtherCap	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Parks

**Project Name** Parks Irrigation Misc Improvements

**Project Type** Self Managed Project

**Project Number** 1019021025

**Description** 

This project will involve Improvements to the parks divisions irrigation systems in the form of algae control, backflow prevention, and pump controls as well as other miscellaneous improvements.

**Justification** 

The Parks Division has taken on testing and repairing all backflow prevention devices in the parks system. There is a need to purchase new devices and repair parts for existing devices to make sure the city water supple remains safe.

Algae control in the irrigation ponds has become a prevailing problem. The algae ultimately clogs irrigation systems and makes it very difficult to maintain the systems in good working order. Some monies would be spent on algae prevention in the form of covering irrigation ponds to eliminate the light source needed for algae growth.

This project will also include optimizing the parks that are fed from well water in the form of new pumps or controls.

#### **Budget Summary**

Project	E	Expenditures		Total
1019021025	1019012	MATERIALS	\$300,000	\$300,000
			\$300,000	\$300,000

Project	Funding Source	2023	Total
1019021025	OneCent#16 OC PARKS	(\$300,000)	(\$300,000)

(\$300,000) (\$300,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Parks Irrigation Misc				0
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	None	0	2	0
Financial Impact	None	0	1	0
Funding Status	Fully	0	0	0
Safety Impact	None	0	3	0
Unfunded Percentage	0	0	0	0

Work Group Parks

**Project Name** Replace John Deere 1600 mower

Project Type Fleet Project
Project Number 1019022008

**Description** Replace John Deere 1600 (83269)

**Justification** This mower is almost 15 years old and has 3347 hours on it. Over the last two years it has

had work done by the shop on electrical issues and overheating issues multiple times. This makes this mower unreliable and needs to be replaced to assist parks to keep up with

mowing demand in the summer.

### **Budget Summary**

-				\$79.000	\$79.000
_	1019022008	1019012	EQUIPMENT	\$79,000	\$79,000
	Project	Expenditures		2023	Total

Project	Funding Source	2023	Total
1019022008	OneCent#16 OC PARKS	(\$79,000)	(\$79,000)

(\$79,000) (\$79,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Replace John Deere 160	0			22
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

Work Group Parks

**Project Name** Resurface Washington Tennis

**Project Type** Engineering Project

Project Number 1019022009

**Description** Fill cracks and resurface 2 double tennis courts at Washington Park.

**Justification**These courts were resurfaced in 2011. At the time cracks were filled and an overlayment of new asphalt was installed. Due to the freeze thaw cycle cracks have begun to reform and the

playing surface is becoming hazardous. Staff is recommending one more crackfilling and

resurfacing cycle before a complete rebuild will happen within the next 5 years.

#### **Budget Summary**

Project	E	Expenditures		Total
1019022009	1019012	BUILDING	\$50,000	\$50,000
			\$50,000	\$50,000

Project	Funding Source	2023	Total
1019022009	OneCent#16 OC PARKS	(\$50,000)	(\$50,000)

(\$50,000) (\$50,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Resurface Washington				21
Capital Action	Maintain	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

Work Group Parks

**Project Name** Replace Parks Backhoe

Project Type Fleet Project
Project Number 1019022010

**Description** Replace Parks Division John Deere 310SG Backhoe.

This backhoe is 16 years old and has 8027 hours on it. It meets the Fleet Divisions 3 criteria for replacement. This unit is primarily used by the irrigation section of parks for irrigation system repair, is a crucial unit for the urban forestry section for tree removals, and assist the parking lot crews for winter snow removal. It is also used as a backup unit at the cemetery

and the streets division if either of there units goes down.

#### **Budget Summary**

			\$139,000	\$139,000
1019022010	1019012	EQUIPMENT	\$139,000	\$139,000
Project	E	xpenditures	2023	Total

Project	Funding Source	2023	Total
1019022010	OneCent#16 OC PARKS	(\$139,000)	(\$139,000)

(\$139,000) (\$139,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Replace Parks Backhoe				20
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Low	1	2	2
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

Work Group Parks

**Project Name** Replace Toro Zero Turn mower

**Project Type** Fleet Project **Project Number** 1019023001

Description

Replace zero turn mower (83308) in parks.

**Justification** 

This mower is almost 8 years old. Although it may not meet all 3 of the shops requirements for replacement staff is requesting its replacement due to safety concerns. It has become apparent through the use of this mower that it is incapable of mowing hills and the deck width of the mower does not allow for mowing edges of lawns near curbs and around trees and other obstacles. The parks system contains an abundance of the above items which makes this mower inadequate in staff's opinion.

#### **Budget Summary**

			\$44,000	\$44.000
1019023001	1019012	EQUIPMENT	\$44,000	\$44,000
Project	E	Expenditures		Total

Project	Funding Source	2023	Total
1019023001	OneCent#16 OC PARKS	(\$44,000)	(\$44,000)

(\$44,000) (\$44,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Replace Toro Zero Turn				19
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	100	0	0	0

Work Group Parks

**Project Name** City Wide Baseline Central Control

**Project Type** Self Managed Project

**Project Number** 1019023005

**Description** 

Replace all irrigation controllers city wide with Baseline Central Control

**Justification** 

In an effort to reduce water and maintenance costs on city wide irrigation systems staff proposes to change all system controls to Baseline.

A Baseline controller was installed at city hall in the spring of 2020 and the city showed a 19% decrease in water usage at city hall. Baseline is confident that just by installing the controllers with soil moisture sensors we could see a drop in water usage by at least 30%. This may be accurate as using City Hall as the test site didn't allow us to isolate just the water used by the irrigation system. Indeed, if the 30% is true the city could see a decrease in the Parks water budget of \$79,500, Special areas \$30,000 and athletics \$15,000. That would make the ROI of this system just short of 5 years.

(\$610,000) (\$610,000)

#### **Budget Summary**

Project	E	Expenditures			Total
1019023005	1019012	ITEMS	INSTALL	\$55,732	\$55,732
	1019012	ITEMS		\$554,268	\$554,268
				\$610,000	\$610,000

Project	Funding Source	2023	Total
1019023005	OPPORTUNIT	(\$610,000)	(\$610,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
City Wide Baseline				8
Capital Action	Improve	0	0	0
Capital Type	Tech	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	High	3	2	6
Financial Impact	Moderate	2	1	2
Funding Status	Unknown	0	0	0
Safety Impact	None	0	3	0
Unfunded Percentage	100	0	0	0

Work Group Parks

**Project Name** PRTT FY23 Trail Maintenance

**Project Type** Engineering Project

Project Number 1019023006

**Description** FY23 project to perform trail maintenance and install connectors to improve the

effectiveness of the City trail system.

**Justification** Performing needed trail maintenance and adding critical sections to provide better

connectivity for trail users is an important part of managing an effective community trail

system.

#### **Budget Summary**

		\$157,172	\$143.389	\$300.561
1019023006	1019012 PATHWAY	\$157,172	\$143,389	\$300,561
Project	Expenditures	2023	2024	Total

Project	Funding Source	2023	2024	Total
1019023006	OneCent#16 OC PARKS	(\$157,172)	(\$143,389)	(\$300,561)

(\$157,172) (\$143,389) (\$300,561)

Measure	Response	Unweighted Score	Weight	Weighted Score
PRTT FY23 Trail				10
Capital Action	maintain	0	0	0
Capital Type	infra	0	0	0
Chance of Failure	Needsoon	2	2	4
Customer Impact	high	3	2	6
Financial Impact	none	0	1	0
Funding Status	Fully	0	0	0
Safety Impact	none	0	3	0
Unfunded Percentage	0	0	0	0

Work Group Parks

**Project Name** Rotary Ability Playground

**Project Type** Engineering Project

Project Number 1019023007

**Description** ADA accessible playground constructed with \$125,000 in funds donated by Rotary.

**Justification** Rotary would like to join forces with the City and other partners to build an ADA

accessible playground in Casper.

#### **Budget Summary**

			\$125,000	\$125,000
1019023007	1019012	EQUIPMENT	\$125,000	\$125,000
Project	E	Expenditures		Total

Project	Funding Source	2023	Total
1019023007	PRIVATE	(\$125,000)	(\$125,000)

(\$125,000) (\$125,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Rotary Ability Playgroun	d			17
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	None	0	1	0
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

**Work Group** Police Administration

**Project Name** 18 Marked Units

**Project Type** Self Managed Project

Project Number 1017023011

**Description** Purchase of 18 marked units

**Justification** The Casper Police Department has a fleet of 140 units, 53 of which are 2013 or

older. The fleet is becoming overwhelmed with units quickly approaching 10 years old. These units are acquiring high mileage and costly repair bills. The frequency of break downs and repairs are becoming increasingly more common. The Casper Police Department will use these new units to replace

outdated and costly units that are currently in the fleet.

#### **Budget Summary**

Project	E	Expenditures		Total
1017023011	1017001	EQUIPMENT	\$788,749	\$788,749
	1017001	VEHICLES	\$663,040	\$663,040
			\$1,451,789	\$1,451,789

Project	Funding Source	2023	Total
1017023011	OneCent#16 OC POLICE	(\$161,310)	(\$161,310)
	OneCent#16 OC POLICE	(\$1,290,479)	(\$1,290,479)

(\$1,451,789

(\$1,451,789)

Measure	Response	Unweighted Score	Weight	Weighted Score
18 Marked Units				27
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work GroupPolice AdministrationProject Name4 Unmarked UnitsProject TypeSelf Managed Project

Project Number 1017023012

**Description** Purchase 4 unmarked units

**Justification** The Casper Police Department has a fleet of 140 units, 53 of which are 2013 or older. The

fleet is becoming overwhelmed with units quickly approaching 10 years old. These units are acquiring high mileage and costly repair bills. The frequency of break downs and repairs are becoming increasingly more common. The Casper Police Department will use these new

units to replace outdated and costly units that are currently in the fleet.

#### **Budget Summary**

			\$159.728	\$159.728
	1017001	VEHICLES	\$130,496	\$130,496
1017023012	1017001	EQUIPMENT	\$29,232	\$29,232
Project	E	xpenditures	2023	Total

Proj	ect	Funding Source	2023	Total
1017023	012	OneCent#16 OC POLICE	(\$159,728)	(\$159,728)

(\$159,728) (\$159,728)

Measure	Response	Unweighted Score	Weight	Weighted Score
4 Unmarked Units				27
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

**Work Group** Public Safety Communications

Project Name T1EthernetConversion
Project Type Self Managed Project

**Project Number** 1469

**Description** Provide CasperNatrona911 with the necessary equipment and installation for the T1 to

Ethernet conversion.

**Justification** T1 networking will be END OF LIFE and the WyoLink network is converting all Microwave

points (Port of Entry) and the PSCC owned 800 MHz equipment to Ethernet based

networking.

#### **Budget Summary**

			\$57 474	\$57 474
1469	117	EQUIPMENT	\$57,474	\$57,474
Project		Expenditures	2023	Total

Project	Funding Source	2023	Total
1469	OTHRFNDRES	(\$57,474)	(\$57,474)

(\$57,474) (\$57,474)

Measure	Response	Unweighted Score	Weight	Weighted Score
T1EthernetConversion				21
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	High	3	2	6
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Public Transit

Project Name ASSIST and LINK BUS
Project Type Self Managed Project

Project Number 1150023001

#### **Description**

Replace (1) ASSIST bus, door-to-door and ADA Complementary Paratransit, and (1) LINK bus, fixed route, wheelchair lift equipped. These buses will replace 2 buses that have met their usefull life in the transit fleet. We are carrying over \$142,000 from 5307 funds for FY2022 and \$26,000 of local funds from FY2022 that were allocated for a LINK bus. We are asking for an additional \$118,000 in FTA 5307 funds and \$46,000 for the local share. The ASSIST bus is budgeted at \$160,000 and the LINK bus is budgeted at \$200,000.

#### **Justification**

These buses will replace current buses which have met their useful life and are needing repairs on a frequent basis in accordance with our FHWA Transit Asset Management Plan.

#### **Budget Summary**

			\$360,000	\$360,000
1150023001	115	VEHICLES	\$360,000	\$360,000
Project		Expenditures	2023	Total

Project	Funding Source	2023	Total
1150023001	FEDERAL FDOT FTA FTA	(\$288,000)	(\$288,000)
	OneCent#16 OC CATC	(\$72,000)	(\$72,000)

(\$360,000) (\$360,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
ASSIST and LINK BUS				27
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	Moderate	2	1	2
Funding Status	Partial	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	20	0	0	0

Work Group Public Transit

**Project Name** Transit Employee Parking Lot

**Project Type** Engineering Project

Project Number 1150023002

**Description** 

Paving the employee parking lot at the Transit office and adding lighting. The parking lot will be paved for the first time. It was never paved when our Transit contractor operated transit services for the City. There will also be lighting added to the parking lot as there are no lights. Approximately 20 employee vehicles park there at all times.

**Justification** 

The parking lot is currently dirt and gravel. Paving the parking will prevent dirt and mud from being tracked into the office and onto the buses. Lighting is needed in the parking lot for safety and security purposes as there is no light there currently. Employees arrive for work in the morning in the dark and leave at the end of the day in the dark.

#### **Budget Summary**

1150023002

Project		Expenditures	2023	Total
1150023002	115	MATERIALS BUILD	\$231,683	\$231,683
			\$231,683	\$231,683
			_	
Project		Funding Source	2023	Total

OneCent#16 OC CATC

(\$231,683) (\$231,683)

(\$231,683)

(\$231,683)

Measure	Response	Unweighted Score	Weight	Weighted Score
Transit Employee Parking	g			28
Capital Action	Improve	0	0	0
Capital Type	Building	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Unknown	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	100	0	0	0

Work Group Public Transit

**Project Name** Transit Security Fence and Lighting

**Project Type** Engineering Project

Project Number 1150023003

**Description** 

The transit security fence and lighting project is to replace the current fence that surrounds the area where the federally-funded fleet is housed. The transit fleet needs to have a more secure fenced-in area, electronic gate access, and security lighting to better protect the fleet from security issues. This project will be paid for with a TSA (Transit Security Administration) Grant or Homeland Security Grant.

**Justification** 

The existing fence is in poor shape and not secure along the bottom sections. The current gate is locked with a padlock each night and remains open all day when the fleet is deployed. There is limited lighting that shines into the lot from a pole in the Rec Center Parking lot. The security cameras are not as effective at night with limited lighting.

#### **Budget Summary**

<b>Project</b> 1150023003	115	Expenditures  MATERIALS BUILD	<b>2023</b> \$308,508	<b>Total</b> \$308,508
			\$308,508	\$308,508

Project	Fur	nding Source	2023	Total
1150023003	FEDERAL	FDHS	(\$154,254)	(\$154,254)
	FEDERAL	FDOT FTA	(\$154,254)	(\$154,254)

(\$308,508) (\$308,508)

Measure	Response	Unweighted Score	Weight	Weighted Score
Transit Security Fence				25
Capital Action	Replace	0	0	0
Capital Type	OtherCap	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	None	0	1	0
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Public Transit

Project Name Transit Shelters

**Project Type** Engineering Project

Project Number 1150023004

#### Description

The fixed route transit system has a total of 128 bus stops. There are 10 transit bus shelters which amounts to less than 10% of our stops. Therefore, most riders are left to wait for the buses in the Wyoming outside elements, including 60 mph winds and below freezing temperatures. One of the items identified in the Transit Strategic Development Plan was to add additional transit shelters.

#### **Justification**

Increasing ridership is a goal for our transit system. One of the items that was identified in the Transit Strategic Development Plan from riders is the need for additional transit shelters so that riders are not exposed to the outside elemts while they wait for a bus. Staff would like to add a few shelters each year. The plan would be for our Parks Department to install the shelters in a concrete pad to save an contractor installation expense. The cost estimate includes the cost of the concrete.

#### **Budget Summary**

				\$40,000	\$40,000
	115	ITEMS	PURCHASE	\$20,000	\$20,000
1150023004	115	ITEMS	BUILD	\$20,000	\$20,000
Project		Expend	itures	2023	Total

		(\$40,000)	(\$40,000)
	PRIVATE	(\$20,000)	(\$20,000)
	OneCent#16 OC CATC	(\$4,000)	(\$4,000)
1150023004	FEDERAL FDOT FTA	(\$16,000)	(\$16,000)
Project	Funding Source	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
Transit Shelters				20
Capital Action	New Cap	0	0	0
Capital Type	Building	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	High	3	2	6
Financial Impact	Low	1	1	1
Funding Status	Partial	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	20	0	0	0

Work Group Recreation Center

**Project Name** Replace CRC Commercial Dryer & Wash

**Project Type** Self Managed Project

Project Number 2240023002

**Description** Replace the commercial dryer and wash machine at the Recreation Center

**Justification** The dryer at the Recreation Center is used throughout every day for towels, mop heads, rags,

etc.

#### **Budget Summary**

			\$15,000	\$15,000
2240023002	224	EQUIPMENT	\$15,000	\$15,000
Project	Expenditures		2023	Total

Project	Funding Source	2023	Total
2240023002	OneCent#16 OC SWIMREC	(\$15,000)	(\$15,000)

(\$15,000) (\$15,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Replace CRC Commercia	al			8
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	None	0	2	0
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	100	0	0	0

**Work Group Recreation Center** 

**Project Name** Washington Field Bathrooms Upgrade

**Project Type Engineering Project** 

**Project Number** 2240023004

**Description** Washington Park Bathrooms upgrade

**Justification** upgrade Bathrooms at Washington park Tennis Courts. Currently this facility needs upgraded as it is not ADA compliant. With the current activity with the public midget football and high

school tennis tournaments the restrooms are not functional and need upgraded.

#### **Budget Summary**

		\$159.250	\$159 250
2240023004	1015000 BUILDING	\$159,250	\$159,250
Project	Expenditures	2023	Total

Project	Funding Source	2023	Total
2240023004	OneCent#16 OC PARKS	(\$125,000)	(\$125,000)
	PRIVATE	(\$34,250)	(\$34,250)

(\$159,250) (\$159,250)

Measure	Response	Unweighted Score	Weight	Weighted Score
Washington Field				17
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	High	3	2	6
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

Work Group Recreation Center

**Project Name** Lansing Field Dugout/Wall Paint

**Project Type** Engineering Project

Project Number 2240023006

**Description** Lansing Field Painting of Dugouts and Wall

**Justification** Paint the Dugouts and out field wall at Mike Lansing Field. Currently Paint is starting to chip

off. Last Painting was in 2014.

#### **Budget Summary**

Project	Expenditures	2023	Total
2240023006	1015000 BUILDING	\$24,000	\$24,000
		\$24.000	\$24.000

Project	Funding Source	2023	Total
2240023006	PRIVATE	(\$24,000)	(\$24,000)

(\$24,000) (\$24,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Lansing Field				20
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	100	0	0	0

Work Group Recreation Center

**Project Name** Recreational Fitness Area

**Project Type** Engineering Project

Project Number 2240023009

**Description** Fitness Room Expansion plus Equipment

Additional Fitness Classroom with sound system, acoustics walls, spin bikes, storage remodel,

air filtration, and lighting. This addition will allow for more fitness programs to be offered.

#### **Budget Summary**

2240023009		kpenditures BUILDING	<b>2023</b> \$100,000	*100,000
	1013000	DOILDING	\$100,000	\$100,000

Project	Funding Source	2023	Total
2240023009	OPPORTUNIT	(\$100,000)	(\$100,000)

(\$100,000) (\$100,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Recreational Fitness Area	3			14
Capital Action	Improve	0	0	0
Capital Type	Building	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	High	3	2	6
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	100	0	0	0

Work Group Refuse Collection

**Project Name** Rear Load Garbage Truck Replacement

Project Type Fleet Project
Project Number 2050021014

**Description** A 10

A 10-year old rear load truck (unit number 222271) has met the criteria for replacement and is scheduled to be replaced in Fiscal Year 2023.

**Justification** 

The Refuse Collection fleet replacement schedule is developed using industry standards as a guideline. In addition, truck replacement schedules are developed by evaluating the lifetime maintenance costs, age and hours of use of a trash truck to minimize operational downtime and maximize operational efficiencies. Rear load trash trucks are currently replaced every 10 to 15 years depending on age and hours of use. Two (2) of the three (3) rear load trash trucks serve 50 residential extra collection routes, and the third rear load trash truck services trash collection from the City parks, downtown area, community litter routes, and the landfill.

#### **Budget Summary**

\$265,000 \$265,000  Project Funding Source 2023 Total			(\$265,000)	(\$265,000)
2050021014 2050042 EQUIPMENT \$265,000 \$265,000 \$265,000	2050021014	REFUSE RES	(\$265,000)	(\$265,000)
2050021014 2050042 EQUIPMENT \$265,000 \$265,000	Project	Funding Source	2023	Total
			\$265,000	\$265,000
Project Expenditures 2023 Total	2050021014	2050042 EQUIPMENT	\$265,000	\$265,000
	Project	Expenditures	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
Rear Load Garbage Truck	<			26
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Moderate	2	2	4
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Refuse Collection

Project Name Roll-Off Truck Replacement

Project Type Fleet Project
Project Number 2050022001

Description

A 12-year old roll-off truck (unit number 222257) is scheduled to meet the City criteria for replacement in Fiscal Year 2022.

**Justification** 

The Refuse Collection fleet replacement schedule was developed using industry standards as a guideline. In addition, truck replacement schedules are developed by evaluating the life time maintenance costs, age and hours of use of a trash truck to minimize operational downtime and maximize operational efficiencies.

Three (3) roll off trucks are replaced every 10 years depending on age, maintenance costs, and hours of use. The three (3) roll off trucks serve daily Monday through Saturday commercial construction and demolition waste customers, daily solid waste facility transfer station metals and waste customers, daily wastewater treatment plant customers, streets snow removal staff during winter, and recyclable materials for transport to material recovery facilities.

#### **Budget Summary**

Project	Expenditures		2023	Total
2050022001	2050042	EQUIPMENT	\$255,000	\$255,000
			\$255,000	\$255,000

Project	Funding Source	2023	Total
2050022001	REFUSE RES	(\$255,000)	(\$255,000)

(\$255,000) (\$255,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Roll-Off Truck				26
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Moderate	2	2	4
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

**Work Group** Refuse Collection

**Project Name** Recycle Depot Improvements

**Project Type** Engineering Project

Project Number 2050022005

#### **Description**

Recycle Depot Improvements and Annual Maintenance includes adding and maintaining educational signage, improving control and collection of windblown litter at the depot sites, and maintaining concrete steps, containers and landscaping.

#### **Justification**

City Council directed staff to improve educational signage at the recycling depots to help prevent contamination. To design and install interpretive signs for each recycling depot, the cost per recycling depot is estimated to be \$24,500. The City has eight (8) community recycling depots so the total cost to place interpretive signs at each depot is \$196,000. Two (2) depots per year for \$50,000 per year for four (4) years.

To reduce windblown litter at the Highland Cemetery, the Meals on Wheels recycling depot is proposed to be moved to the Ice Arena Parking lot accessed from the CATC entrance site where 12 foot tall litter fences may be installed. The cost to move the Meals on Wheels depot is estimated at \$372,000. This project has been placed on hold.

The Water Treatment Plant, Water Distribution Garage, and North Platte River are next to the Wyoming Boulevard/Fairgrounds recycling depot. The landscaping surrounding the depot has not establish. To establish the landscape material, new plant material and an irrigation system is needed. The landscape material and irrigation system cost is estimated at \$104,400. This project has been placed on hold.

Reoccurring annual maintenance costs are estimated at \$25,000 with an annual inflation factor of ~3%.

#### **Budget Summary**

Project	Expenditures	2023	2024	2025	Total
2050022005	2050041 MATERIALS	\$25,000	\$25,000	\$25,000	\$75,000
		\$25,000	\$25,000	\$25,000	\$75,000
		I			
Project	Funding Source	2023	2024	2025	Total
2050022005	REFUSE RES	(\$25,000)	(\$25,000)	(\$25,000)	(\$75,000)

		(\$25,000)	(\$25,000)	(\$25,000)	(\$75,000)
Project	Funding Source	2023	2024	2025	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
Recycle Depot				20
Capital Action	Improve	0	0	0
Capital Type	OtherCap	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

**Work Group** Refuse Collection

**Project Name** Front Load Garbage Truck Replacemen

Project Type Fleet Project
Project Number 2050022016

**Description** 

A 7-year old front load garbage truck that meets the City criteria for trash truck replacement criteria is scheduled for replacement in Fiscal Year 2022.

#### **Justification**

The Refuse Collection fleet replacement schedule is developed using industry standards as a guideline. In addition, truck replacement schedules are developed by evaluating the lifetime maintenance costs, age and hours of use of a trash truck to minimize operational downtime and maximize operational efficiencies.

It is standard industry practice to have a 1 to 1 backup fleet for trash collection. Five (5) front load trucks are currently replaced at the industry standard of 7 years. The five (5) front load trash trucks serve 11 commercial trash collection routes, 7 cardboard and 2 plastics collection routes Monday through Saturday.

#### **Budget Summary**

<b>D</b> 1 4	= 114				_
Project	Expenditures	2023	2024	2025	Total
2050022016	2050040 EQUIPMENT	\$700,000	\$700,000	\$360,000	\$1,760,000
		\$700,000	\$700,000	\$360,000	\$1,760,000
Project	Funding Source	2023	2024	2025	Total
2050022016	REFUSE RES	(\$700,000)	(\$700,000)	(\$360,000)	(\$1,760,000)
					(\$1,760,000

(ψ1,700,00

(\$700,000) (\$700,000) (\$360,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Front Load Garbage				28
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Refuse Collection

**Project Name** Side Load Garbage Truck Replacement

Project Type Fleet Project
Project Number 2050022017

**Description** Two (2) side load garbage trucks, units 222274 and 222275, mees the City criteria

for trash truck replacement criteria and are scheduled for replacement in Fiscal

Year 2023.

**Justification** Side load trash trucks are currently replaced at the industry standard of 7 years or

earlier. It is standard industry practice to have a 1 to 1 backup fleet for trash collection. The City has ten (10) side load trash trucks; five (5) of the ten (10) trucks are the frontline trucks and five (5) of the trucks are the backup trucks. The ten (10) side load trucks serve 25 residential trash collection routes; five (5) daily

routes each day of the week, Monday through Friday.

#### **Budget Summary**

Project	Expenditures	2023	2024	2025	Total
2050022017	2050042 EQUIPMENT	\$720,000	\$730,000	\$1,100,002	\$2,550,002
		\$720,000	\$730,000	\$1,100,002	\$2,550,002
Project	Funding Source	2023	2024	2025	Total
<b>Project</b> 2050022017	Funding Source REFUSE RES	<b>2023</b> (\$720,000)	<b>2024</b> (\$730,000)	<b>2025</b> (\$1,100,002)	<b>Total</b> (\$2,550,002)

(\$2,550,002

(\$720,000) (\$730,000) (\$1,100,002)

Measure	Response	Unweighted Score	Weight	Weighted Score
Side Load Garbage Truck	(			26
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Moderate	2	2	4
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Refuse Collection

**Project Name** Pickup Truck Replacement

Project Type Fleet Project
Project Number 2050023001

#### **Description**

A new pickup truck equipped with a plow and salter is planned for purchase in Fiscal Year 2022 for the new Refuse Collection Supervisor, and three (3) pickup trucks (unit numbers 222264, 222277, 222281) are estimated to meet replacement criteria in Fiscal Year 2023, 2025 and 2026. Pickup trucks are used by supervisors to meet employees on routes, meet customers, plow snow in alleyways, and conduct daily business. One truck is dedicated to a litter crew and is used to transport employees to litter routes for collecting litter on primary City roads.

#### **Justification**

Truck replacement schedules are developed by evaluating the life time maintenance costs, age and hours of use of the truck to minimize operational downtime and maximize operational efficiencies. On average pickup trucks are replaced every 10 years.

#### **Budget Summary**

Project	Expenditures	2023	2025	Total
2050023001	2050042	\$55,000	\$65,000	\$120,000
		\$55,000	\$65,000	\$120,000
Project	Funding Source	2023	2025	Total
2050023001	REFUSE RES	(\$55,000)	(\$65,000)	(\$120,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Pickup Truck				11
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Refuse Collection

**Project Name** Enclose N Wash Bay of Truck Barn

**Project Type** Engineering Project

Project Number 2050023002

#### Description

Refuse Collection's Truck Barn used to store trash and recycling trucks and street sweepers includes a truck wash bay. Half of the wash bay (north end) is not enclosed. The enclosed section of the wash bay has a sump drain that connects to the City's sanitary sewer line. The outdoor section of the wash bay has a containment vault that is routinely cleaned out by the City wastewater team. Daily cleanout of garbage and dirt from sanitation trucks and street sweepers occurs in the outside area of the wash bay because the enclosed area is tied to the sanitary sewer and is only used for washing equipment with minimal garbage and dirt.

The enclosed and outside area of the wash bay are used Monday through Saturday. During high wind events staff wears Tyvek suits to prevent clothing from being saturated with garbage and dirt and frequently the trash truck or sweeper are sand blasted causing damage to the paint, trim and windows. During the winter the containment vault in the outdoor are of the wash bay fills with stormwater and freezes creating ice.

The outdoor area of the wash bay needs to be enclosed to reduced safety hazards and improve operational efficiency.

#### **Justification**

Enclosing the outdoor wash bay will protect workers and equipment from the harsh weather conditions and safety hazards. An enclosed wash bay will eliminate the need for workers to wear Tyvek suits during daily cleaning, ice hazards and damage to equipment from windblown sand. Improving worker conditions and reducing wear and tear on equipment is critical for efficient operations. It is estimated to improve truck and sweeper life cycles by reducing end of life maintenance costs up to as much as \$25,000 per year for the entire fleet.

#### **Budget Summary**

		\$20,000	\$200,000	\$220,000
2050023002	2050041	\$20,000	\$200,000	\$220,000
Project	Expenditures	2023	2024	Total

		(\$20,000)	(\$200,000)	(\$220,000)
2050023002	REFUSE RES	(\$20,000)	(\$200,000)	(\$220,000)
Project	Funding Source	2023	2024	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
Enclose N Wash Bay of				17
Capital Action	Improve	0	0	0
Capital Type	Building	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

**Work Group** Refuse Collection

**Project Name** Construction Container Management

**Project Type** Self Managed Project

Project Number 2050023003

**Description** The City has approximately 35 construction & demolition trash containers in

its inventory, commonly referred to as roll off containers. The roll off trash containers are made of metal. Metal trash containers corrodes resulting in holes and leaking. The average life of a roll off trash container is 20 years with

excellent maintenance.

**Justification** Replacing roll off trash containers is needed on a routine basis to maintain the

City's customer base and continue to project a positive image of the City. The

City competes with private trash haulers and keeping our roll off trash

containers in excellent condition sets us apart.

#### **Budget Summary**

			\$35,000	\$35,000
2050023003	2050040	EQUIPMENT	\$35,000	\$35,000
Project	Ex	xpenditures	2023	Total

Project	Funding Source	2023	Total
2050023003	REFUSE RES	(\$35,000)	(\$35,000)

(\$35,000) (\$35,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Construction Container				18
Capital Action	Maintain	0	0	0
Capital Type	OtherCap	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

**Work Group** Refuse Collection

**Project Name** Recycle Truck-Replace Chassis

Project Type Fleet Project
Project Number 2050023004

**Description** 

A 16-year old recycle truck that services the community recycling depots meets the City's replacement criteria and is scheduled for a chassis replacement in Fiscal Year 2023. One (1) recycle truck serves the recycling depots daily Monday through Friday and the second truck is a back up truck. The body of both recycling trucks were refurbished three (3) years ago and the chassis on both trucks is 16 years old.

**Justification** 

Both recycling trucks have incurred more maintenance and repairs than the original cost of the trucks and in recent years the cost of maintenance has exponentially increased. To minimize operational downtime and ongoing repair costs, and maximize operational efficiencies, it is critical to replace the chassis in both recycle trucks.

(\$135,000) (\$135,000)

#### **Budget Summary**

Project	Expenditures	2023	Total
2050023004	2050041 EQUIPMENT	\$135,000	\$135,000
		\$135,000	\$135,000
Project	Funding Source	2023	Total
2050023004	REFUSE RES	(\$135,000)	(\$135,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Recycle Truck-Replace				15
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

**Work Group** Refuse Collection

Project Name Tree Farm Maintenance
Project Type Self Managed Project

Project Number 2050023008

**Description** 

The Refuse Collection Fund partners with the City Parks Division to manage a tree farm. Refuse Collection provides annual budget to maintain the tree farm utilizing local contractors to weed, monitor irrigation system and assist Parks staff with planting new trees to replace trees used in City Parks, City landscape areas, and City solid waste transfer station.

**Justification** 

The Casper Solid Waste Facility houses the City's tree farm managed by Parks and Solid Waste staff. This partnership was developed to reduce increasing costs to the general fund for tree replacement. Staff estimates the savings of managing a tree farm and reduction of City Parks' needed funding for tree replacement at \$25,000 per year.

#### **Budget Summary**

Project	Expenditures	2023	2024	2025	Total
2050023008	2050042 MATERIALS	\$21,200	\$22,448	\$23,746	\$67,394
		\$21,200	\$22,448	\$23,746	\$67,394
Project	Funding Source	2023	2024	2025	Total
<b>Project</b> 2050023008	Funding Source REFUSE RES	<b>2023</b> (\$21,200)	<b>2024</b> (\$22,448)	<b>2025</b> (\$23,746)	<b>Total</b> (\$67,394)

Measure	Response	Unweighted Score	Weight	Weighted Score
Tree Farm Maintenance				12
Capital Action	Improve	0	0	0
Capital Type	OtherCap	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group Refuse Collection

**Project Name** Recycle Depot Imp/Litter Prevent

**Project Type** Self Managed Project

Project Number 2050025001

**Description** 

Refuse Collection supports eight (8) community recycling depots throughout the City of Casper. One (1) of the eight (8) recycling depots is located at the Meals on Wheels facility. The operation of this depot creates wind-blown litter onto the Highland Cemetery property. Costs to move the depot include concrete and asphalt surface improvements and fencing for catching litter.

**Justification** 

To eliminate litter accumulation at Highland Cemetery created from the Meals on Wheels recycling depot, Staff recommends moving the recycling depot to the Casper Ice Arena most southern parking area next to the CATC parking lot.

#### **Budget Summary**

			\$90,000	\$90,000
2050025001	2050041	MATERIALS	\$90,000	\$90,000
Project	Expenditures		2023	Total

Project	Funding Source	2023	Total
2050025001	REFUSE RES	(\$90,000)	(\$90,000)

(\$90,000) (\$90,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Recycle Depot Imp/Litte	r			12
Capital Action	Improve	0	0	0
Capital Type	Ops	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group River Fund

**Project Name** Bryan Stock Trail Boatramp

**Project Type** Engineering Project

Project Number 1060023001

**Description** Replace the existing boat ramp west of Bryan Stock Trail Bridge on river right.

**Justification** The Bryan Stock Trail Boat Ramp is a replacement project for a boat ramp that has

deteriorated beyond use. The boat ramp is a key take out for boats, rafts, tubes, etc.

### **Budget Summary**

				\$60,000	\$60,000
1060023001	10610	RIVER	BUILD	\$60,000	\$60,000
Project	Expenditures			2023	Total

			(\$60,000)	(\$60,000)
	STATE	GAME&FISH	(\$30,000)	(\$30,000)
	PRIVATE	<u> </u>	(\$12,000)	(\$12,000)
1060023001	OneCen	t#15 OC RIVER	(\$18,000)	(\$18,000)
Project	F	unding Source	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
Bryan Stock Trail				15
Capital Action	Replace	0	0	0
Customer Impact	High	3	2	6
Financial Impact	none	0	1	0
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group River Fund

Project NameFirst Street GatewayProject TypeEngineering Project

**Project Number** 1061021001

**Description** Gateway Project. Construction & CQA for the 1st Street Reach River

Restoration Fund.

**Justification** The First Street Gateway is river restoration riverbank work that creates a park

and recreation area as a gateway into Casper's downtown. Because it will also add some beautification to the area in the form of landscaping/bankscaping, the project is expected to be a catalyst to development in the area.

### **Budget Summary**

Project		Expendi	tures	2023	Total
1061021001	10610	CITY ST	AFF ADMIN	\$1,000	\$1,000
	10610	LAND	BUILD	\$600,000	\$600,000
	10610	LAND	INSTALL	\$40,000	\$40,000
	10610	LAND		\$100,000	\$100,000
	10610	PATHW	AY BUILD	\$180,000	\$180,000
	10610	RIVER	ADMIN	\$25,000	\$25,000
	10610	RIVER	BUILD	\$450,000	\$450,000
	10610	RIVER	COLLECT	\$75,000	\$75,000
	10610	RIVER	DESIGN	\$50,000	\$50,000
	10610	RIVER	INFORM	\$50,000	\$50,000
	10610	RIVER	MONITOR	\$50,000	\$50,000

\$1,621,000 \$1,621,000

Project	Funding Source	2023	Total
1061021001	FEDERAL	(\$980,000)	(\$980,000)
	NATRONA	(\$143,000)	(\$143,000)
	OneCent#15 OC RIVER	(\$377,000)	(\$377,000)
	OTHRFNDRES	(\$51,000)	(\$51,000)
	PRIVATE CORPDONOR	(\$70,000)	(\$70,000)

			(\$1,621,000
Project	Funding Source	2023	Total

(\$1,621,000)

**Priority Score** 

Measure	Response	Unweighted Score	Weight	Weighted Score
First Street Gateway				28
Capital Action Improve		0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

)

Work Group River Fund

Project Name RIPARIAN-UPLAND VEGETATION MONITOR

**Project Type** Engineering Project

**Project Number** 1061022002

Description

This project will be a mapping project to assist in ascertaining the scope of the problem and a collector app expansion project to assist in combatting the problem.

**Justification** 

Extensive riparian and upland area work has been part of the river restoration project with Russian olive removal being a significant ecosystem hallmark. Other invasives like canary reed grass also need to be mapped and controlled. In addition to invasive removal and control, the river restoration project has worked to revegetate riverbanks with native species vegetation. However, the survival rate of the planted vegetation has been low. Based on survival rate and river restoration monitoring reports from Wyoming Game and Fish, additional study must be completed to determine the reason for low survival. It is suspected that soil health is a large contributor to the lack of survival. This project will be a soil sampling as well as mapping project that will assist in ascertaining the scope of the problem. A collector app expansion project to assist in combatting the problem may be included.

### **Budget Summary**

Project	Expenditures		2023	Total
1061022002	10610	RIVER	\$30,000	\$30,000
			\$30,000	\$30,000

	•		(\$30,000)	(\$30,000)
	STATE	GOVERNOR	(\$10,000)	(\$10,000)
1061022002	OTHRFNDRES		(\$20,000)	(\$20,000)
Project	Fu	unding Source	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
RIPARIAN-UPLAND				25
Capital Action	IMPROVE	0	0	0
Capital Type	INFRA	0	0	0
Chance of Failure	NEED NOW	5	2	10
Customer Impact	HIGH	3	2	6
Financial Impact	HIGH	3	1	3
Funding Status	FULLY	0	0	0
Safety Impact	MODERATE	2	3	6
Unfunded Percentage	0	0	0	0

Work Group River Fund

**Project Name** Knife River Phytoremediation

**Project Type** Engineering Project

Project Number 1061024002

**Description** Knife River Phytoremediation Project

**Justification** The phytoremediation is part of the landscaping/bankscaping for the Knife

River river restoration work. The phytoremediation is specifically designed to

be a remedy for the pollution from the old city landfill.

#### **Budget Summary**

Project		Expenditures			2024	Total
1061024002	10610				\$2,048,000	\$2,048,000
	10610	CITY STAFF ADMIN			\$1,000	\$1,000
	10610	RIVER	ADMIN		\$198,000	\$198,000
	10610	RIVER	DESIGN	\$240,000		\$240,000
			•			

\$240,000 \$2,247,000 \$2,487,000

Project	Funding Source			2023	2024	Total
1061024002	OneCen	t#17 OC RI	VER		(\$1,138,000)	(\$1,138,000)
	OTHRFN	IDRES			(\$1,000)	(\$1,000)
	PRIVATE				(\$48,000)	(\$48,000)
	STATE				(\$1,000,000)	(\$1,000,000)
	STATE	WDEQ	FIRST	(\$60,000)	(\$15,000)	(\$75,000)
	STATE	WDEQ	SECOND	(\$180,000)	(\$45,000)	(\$225,000)

(\$2,487,000

(\$240,000) (\$2,247,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Knife River				0
Capital Action	NA	0	0	0
Capital Type	OtherCap	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	none	0	2	0
Financial Impact	none	0	1	0
Funding Status	Unknown	0	0	0
Safety Impact	none	0	3	0
Unfunded Percentage	0	0	0	0

Work Group Streets

**Project Name** Mariposa Blvd-Ridgecrest to Brkview

**Project Type** Engineering Project

Project Number 1015022005

#### **Description**

The project includes street improvements to Mariposa Blvd. from Ridgecrest Dr. to Brookview Dr. The City of Casper Public Services Department makes ongoing evaluations and considerations for utility replacements and street reconstruction each year. Plans for the project include milling and overlay of all asphalt pavement; reconstruction of failing curbwalk; and addition of ADA accessible concrete ramps.

#### **Justification**

Mariposa Blvd from Ridgecrest Dr. to Brookview Dr. is a residential collector street in west Casper. In 2019, IMS Infrastructure Management Services performed a Citywide Streets Condition Index Survey. The Survey included an assessment of street conditions with a pavement indexing system (otherwise known as PCI or Pavement Condition Index) which factors the distress (cracking, texture, rutting, roughness, cross fall, crown, and grade), age, type (arterial, collector, local, etc.), and life cycle of Casper streets. The lower the PCI, the worse the condition. The Survey indicated that Casper's streets met a PCI of 59 out of 100 (59/100), compared to a national average of 63/100. The 2019 Survey concluded that Mariposa Blvd. from Ridgecrest Dr. to Brookview Dr. had a PCI of 44.

#### **Budget Summary**

Project	Expenditures	2023	Total	
1015022005	1015000 STREET BUIL	D	\$590,000	\$590,000
			\$590,000	\$590,000
Project	Funding Source		2023	Total
1015022005	OneCent#16 OC STREET		(\$590,000)	(\$590,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Mariposa Blvd-Ridgecres	st			18
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Streets

**Project Name** Bryan Stock Trl Cape Seal

**Project Type** Engineering Project

**Project Number** 1015023013

**Description** The project includes asphalt preservation for Bryan Stock Trl Cape Seal from

125 to Metro Rd.

**Justification** 2019, IMS Infrastructure Management Services performed a Citywide Streets

Condition Index Survey. The Survey included an assessment of street conditions with a pavement indexing system (otherwise known as PCI or Pavement Condition Index) which factors the distress (cracking, texture, rutting, roughness, cross fall, crown, and grade), age, type (arterial, collector, local, etc.), and life cycle of Casper streets. The lower the PCI, the worse the condition. The Survey indicated that Casper's streets met a PCI of 59 out of 100 (59/100), compared to a national average of 63/100. The 2019 Survey concluded that Bryanstock Trl Cape Seal from I25 to Metro Rd had a PCI of 51.

### **Budget Summary**

Project	Expenditures			2023	Total
1015023013	1015000	STREET	BUILD	\$175,000	\$175,000
				\$175,000	\$175,000

Project	Funding Source	2023	Total
1015023013	OneCent#16 OC STREET	(\$175,000)	(\$175,000)

(\$175,000) (\$175,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Bryan Stock Trl Cape Sea	al			17
Capital Action	Maintain	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Streets

**Project Name** Coffman Ave from Essex to 25th Stre

**Project Type** Engineering Project

**Project Number** 1015023015

**Description** The project includes mill & overlay asphalt and full-depth street

improvements, curbwalk and drainage improvements, and water main

replacement.

**Justification** In 2019, IMS Infrastructure Management Services performed a Citywide

Streets Condition Index Survey. The Survey included an assessment of street conditions with a pavement indexing system (otherwise known as PCI or Pavement Condition Index) which factors the distress (cracking, texture, rutting, roughness, cross fall, crown, and grade), age, type (arterial, collector, local, etc.), and life cycle of Casper streets. The lower the PCI, the worse the condition. The Survey indicated that Casper's streets met a PCI of 59 out of 100 (59/100), compared to a national average of 63/100. The 2019 Survey

concluded that Coffman Ave from Essex to 25th Street had a PCI of 39.

#### **Budget Summary**

Project	Expenditures			2023	Total
1015023015	1015000	STREET	BUILD	\$1,146,000	\$1,146,000

\$1,146,000 \$1,146,000

Project	Funding Source	2023	Total
1015023015	OneCent#16 OC STREET	(\$1,146,000)	(\$1,146,000)

(\$1,146,000

(\$1,146,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Coffman Ave from Essex				22
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Streets

**Project Name** Westridge Improvements

**Project Type** Engineering Project

**Project Number** 1015023016

**Description** The project includes mill & overlay asphalt and full-depth street

improvements, curbwalk and drainage improvements, and water main

replacement along Westridge Circle, Westridge Terrace and Westridge Drive.

Justification In 2019, IMS Infrastructure Management Services performed a Citywide

Streets Condition Index Survey. The Survey included an assessment of street conditions with a pavement indexing system (otherwise known as PCI or Pavement Condition Index) which factors the distress (cracking, texture, rutting, roughness, cross fall, crown, and grade), age, type (arterial, collector, local, etc.), and life cycle of Casper streets. The lower the PCI, the worse the condition. The Survey indicated that Casper's streets met a PCI of 59 out of 100 (59/100), compared to a national average of 63/100. The 2019 Survey concluded that Coffman Ave from Essex to 25th Street had a PCI of 37.

#### **Budget Summary**

Project	Expenditures			2023	Total
1015023016	1015100	STREET	BUILD	\$1,040,000	\$1,040,000

#### \$1,040,000 \$1,040,000

Project	Funding Source	2023	Total
1015023016	OneCent#16 OC STREET	(\$1,040,000)	(\$1,040,000)

(\$1,040,000

(\$1,040,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Westridge Improvement	S			22
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Streets

**Project Name** Midwest - Walnut to Poplar

**Project Type** Engineering Project

Project Number 1015121214

**Description** Reconstruction of Midwest Avenue between Walnut Street and Poplar Street.

Because of funding secured from the Wyoming Business Council, WYDOT TAP Grant, and balance of County Wide Consensus Funds for Midwest between Elm and Walnut, there should be a balance of 1% and capital fund reserves to

help fund this phase of the project to Poplar Street.

**Justification** This project continues the improvements in the Old Yellowstone District and

connects the Downtown to the Amoco Reuse project. It is projected to open up properties within the District to redevelopment. This phase completes the reconstruction of Midwest Avenue between Walnut Street and Poplar Street.

#### **Budget Summary**

Project	Expenditures			2023	Total
1015121214	1015000 STREET BUILD		\$2,210,189	\$2,210,189	
				\$2,210,189	\$2,210,189

Project	Funding Source	2023	Total
1015121214	CAP RESERV	(\$210,189)	(\$210,189)
	FEDERAL	(\$2,000,000)	(\$2,000,000)

(\$2,210,189

(\$2,210,189)

Measure	Response	Unweighted Score	Weight	Weighted Score
Midwest - Walnut to				14
Capital Action	New Cap	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	High	3	2	6
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	70	0	0	0

Work Group Streets

**Project Name** 70981 Tandem Axle Plow/Sander

Project Type Fleet Project
Project Number 1015123001

**Description** 70981Tandem Axle Plow/Sander

**Justification** 70981Tandem Axle Plow/Sander. This Tandem is a Sterling Plow/Salter and the Manufactures

have since been dissolved and are now Obsolete.

### **Budget Summary**

			\$235,000	\$235,000
1015123001	1015100	VEHICLES	\$235,000	\$235,000
Project	Expenditures		2023	Total

Project	Funding Source	2023	Total
1015123001	OneCent#16 OC STREET	(\$235,000)	(\$235,000)

(\$235,000) (\$235,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
70981 Tandem Axle				28
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Streets

**Project Name** 70986 Tandem Axle Plow/Sander

Project Type Fleet Project
Project Number 1015123002

**Description** 70986 Tandem Plow/Sander

**Justification** 70986 Tandem Axle Plow/Sander

### **Budget Summary**

		\$235,000	\$235,000
1015123002	1015100 VEHICLES	\$235,000	\$235,000
Project	Expenditures	2023	Total

\$235,000 \$235,000

Project	Funding Source	2023	Total
1015123002	OneCent#16 OC STREET	(\$235,000)	(\$235,000)

(\$235,000) (\$235,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
70986 Tandem Axle				28
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Streets

**Project Name** 70973 Snow Blower

**Project Type** Fleet Project **Project Number** 1015123003

**Description** 70973 Snow Blower

**Justification** 70973 Snow Blower

### **Budget Summary**

		\$250,000	\$250,000
1015123003	1015100 VEHICLES	\$250,000	\$250,000
Project	Expenditures	2023	Total

Project	Funding Source	2023	Total
1015123003	OneCent#16 OC STREET	(\$250,000)	(\$250,000)

(\$250,000) (\$250,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
70973 Snow Blower				28
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Streets

**Project Name** Traffic Sign Plotter

**Project Type** Fleet Project **Project Number** 1015123004

**Description** Traffic Sign Plotter

**Justification** Traffic Sign Plotter

### **Budget Summary**

Project	Expenditures	2023	Total
1015123004	1015200 EQUIPMENT	\$9,000	\$9,000
		\$9,000	\$9,000

Project	Funding Source	2023	Total
1015123004	OneCent#16 OC STREET	(\$9,000)	(\$9,000)

(\$9,000) (\$9,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Traffic Sign Plotter				16
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	High	3	2	6
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Streets

**Project Name** East 21st Street Improvements

**Project Type** Engineering Project

Project Number 1015123006

**Description** 

The project includes improvements to the street section with the addition of curbs, sidewalks and ADA accessible ramps; storm sewer system upgrades with new catch basins and upsizing of the undersized storm sewer main; and water main replacement.

**Justification** 

East 21st St Improvements - Kingsbury Dr. to Walsh Dr. was designated as one of the City's higher priorities for street reconstruction due to areas of inadequate storm drainage sub-standard street cross-section without curb, gutter and sidewalk. In 2019, IMS Infrastructure Management Services performed a Citywide Streets Condition Index Survey. The Survey included an assessment of street conditions with a pavement indexing system (otherwise known as PCI or Pavement Condition Index) which factors the distress (cracking, texture, rutting, roughness, cross fall, crown, and grade), age, type (arterial, collector, local, etc.), and life cycle of Casper streets. The lower the PCI, the worse the condition. The Survey indicated that Casper's streets met a PCI of 59 out of 100 (59/100), compared to a national average of 63/100.

The 2019 Survey concluded that this section of East 21st St had a PCI of 41.

#### **Budget Summary**

Project	Expenditures			2023	Total
1015123006	1015000 S	TREET	BUILD	\$401,000	\$401,000
				\$401,000	\$401,000
Project	Fund	<b>Funding Source</b>		2023	Total
1015123006	OneCent#16	OneCent#16 OC STREET		(\$401,000)	(\$401,000)
				(\$401,000)	(\$401,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
East 21st Street				18
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Streets

**Project Name** College Drive Improvements

**Project Type** Engineering Project

Project Number 1015123008

Description

The project includes improvements to the street section with the mill & overlay of the asphalt, curb and gutter installation, concrete pathway installation, and miscellaneous concrete curbwalk and repairs.

**Justification** 

College Dr. Improvements – W18th St. to Casper College Murane Fields was designated as one of the City's higher priorities for street reconstruction due to poor asphalt conditions and needs for a pedestrian pathway connectivity to Casper College and the nearby residential area. In 2019, IMS Infrastructure Management Services performed a Citywide Streets Condition Index Survey. The Survey included an assessment of street conditions with a pavement indexing system (otherwise known as PCI or Pavement Condition Index) which factors the distress (cracking, texture, rutting, roughness, cross fall, crown, and grade), age, type (arterial, collector, local, etc.), and life cycle of Casper streets. The lower the PCI, the worse the condition. The Survey indicated that Casper's streets met a PCI of 59 out of 100 (59/100), compared to a national average of 63/100.

The 2019 Survey concluded that this section of East 21st St had a PCI of 49.

#### **Budget Summary**

Project	Expenditu	res	2023	Total
1015123008	1015000 STREET BUILD		\$376,000	\$376,000
			\$376,000	\$376,000
Project	Funding Source		2023	Total
1015123008	OneCent#16 OC STI	OneCent#16 OC STREET		(\$376,000)
1015125000			(\$376,000)	(+/

Measure	Response	Unweighted Score	Weight	Weighted Score
College Drive				18
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Streets

**Project Name** East 2nd Street Cape Seal - Hat Six

**Project Type** Engineering Project

**Project Number** 1015123009

Description

The project includes installation of an asphalt cape seal to the street section.

**Justification** 

East 2nd Street Cape Seal - Hat Six to WY Blvd is a heavily traveled street right of way on the east side of Casper. In 2019, IMS Infrastructure Management Services performed a Citywide Streets Condition Index Survey. The Survey included an assessment of street conditions with a pavement indexing system (otherwise known as PCI or Pavement Condition Index) which factors the distress (cracking, texture, rutting, roughness, cross fall, crown, and grade), age, type (arterial, collector, local, etc.), and life cycle of Casper streets. The lower the PCI, the worse the condition. The Survey indicated that Casper's streets met a PCI of 59 out of 100 (59/100), compared to a national average of 63/100.

The 2019 Survey concluded that this section of had a PCI of 57.

#### **Budget Summary**

Project	Expenditures			2023	Total
1015123009	1015000	STREET	BUILD	\$805,000	\$805,000
				\$805,000	\$805,000

Project	Funding Source	2023	Total
1015123009	OneCent#16 OC STREET	(\$805,000)	(\$805,000)

(\$805,000) (\$805,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
East 2nd Street Cape Sea	al			15
Capital Action	Maintain	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Streets

**Project Name** Oak Street Improvements -CY to 14th

**Project Type** Engineering Project

**Project Number** 1015123016

Description

The project includes street replacement, sidewalk and ADA repairs, stormwater main replacement, and stormwater manhole replacement.

**Justification** 

Oak Street from CY to 14th St is in a school zone between Natrona County High School and Dean Morgan Middle School. The street and stormwater is in need of upgrades. In 2019, IMS Infrastructure Management Services performed a Citywide Streets Condition Index Survey. The Survey included an assessment of street conditions with a pavement indexing system (otherwise known as PCI or Pavement Condition Index) which factors the distress (cracking, texture, rutting, roughness, cross fall, crown, and grade), age, type (arterial, collector, local, etc.), and life cycle of Casper streets. The lower the PCI, the worse the condition. The Survey indicated that Casper's streets met a PCI of 59 out of 100 (59/100), compared to a national average of 63/100.

The 2019 Survey concluded that this street section had a PCI of 45.

#### **Budget Summary**

Duningt	Frankling Corner				
				\$900,000	\$900,000
1015123016	1015000	STREET	BUILD	\$900,000	\$900,000
Project	Expenditures		2023	Total	

Project	Funding Source	2023	Total
1015123016	OneCent#16 OC STREET	(\$900,000)	(\$900,000)

(\$900,000) (\$900,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Oak Street Improvement	ts			22
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Streets

Project Name E Street Extension
Project Type Self Managed Project

**Project Number** 1015123017

**Description** Extend E Street

**Justification** This project will extend E Street westward from its current juncture at Center Street. It is

hoped that this will enhance the gateway to downtown from Center and I-25.

### **Budget Summary**

Project	Expenditures			2023	Total
1015123017	1015100	STREET	BUILD	\$200,000	\$200,000
				\$200,000	\$200,000

Project	Funding Source	2023	Total
1015123017	OPPORTUNIT	(\$200,000)	(\$200,000)

(\$200,000) (\$200,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
E Street Extension				5
Capital Action	Improve	0	0	0
Capital Type	infra	0	0	0
Chance of Failure	na	0	2	0
Customer Impact	low	1	2	2
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	none	0	3	0
Unfunded Percentage	0	0	0	0

Work Group Streets

**Project Name** Center St Decorative Light Upgrade

**Project Type** Self Managed Project

Project Number 1015123222

**Description** Center St. Decorative Light Poles and LED Upgrade

Justification Current Poles are in need of repainting, Installing Electrical covers and upgrading to LED

lights.

### **Budget Summary**

1015123222	1015100	ITEMS	INSTALL	\$50,000	\$50,000
	'			\$50,000	\$50,000

 Project
 Funding Source
 2023
 Total

 1015123222
 OneCent#16 OC STREET
 (\$50,000)
 (\$50,000)

(\$50,000) (\$50,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Center St Decorative				9
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Streets

Project Name Misc Traffic Equipment
Project Type Self Managed Project

Project Number 1015223001

**Description** Misc Traffic - Keeping the City's Traffic Network up-to-Date, Detection, Wiring and Signal

Programming.

**Justification** Misc Traffic - Keeping the City's Traffic Network up-to-Date, Detection, Wiring and Signal

Programming

### **Budget Summary**

			\$100,000	\$100,000
1015223001	1015200	TECHNOLOGY	\$100,000	\$100,000
Project	E	Expenditures		Total

Project	Funding Source	2023	Total
1015223001	OneCent#16 OC STREET	(\$100,000)	(\$100,000)

(\$100,000) (\$100,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Misc Traffic Equipment				18
Capital Action	Maintain	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NA	0	2	0
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Streets

Project Name 12th St Cape Seal
Project Type Engineering Project

Project Number 101523017

Description

The project includes installation of an asphalt cape seal to the street section.

**Justification** 

12th Street Cape Seal – McKinley to WY Blvd is a heavily traveled street right of way on the east side of Casper. The cape seal serves to protect and extend the life of asphalt street sections. In 2019, IMS Infrastructure Management Services performed a Citywide Streets Condition Index Survey. The Survey included an assessment of street conditions with a pavement indexing system (otherwise known as PCI or Pavement Condition Index) which factors the distress (cracking, texture, rutting, roughness, cross fall, crown, and grade), age, type (arterial, collector, local, etc.), and life cycle of Casper streets. The lower the PCI, the worse the condition. The Survey indicated that Casper's streets met a PCI of 59 out of 100 (59/100), compared to a national average of 63/100.

The 2019 Survey concluded that this section of had a PCI of 66.

#### **Budget Summary**

				\$450,000	\$450.000
101523017	1015000	STREET	BUILD	\$450,000	\$450,000
Project	Expenditures			2023	Total

Project	Funding Source	2023	Total
101523017	OneCent#16 OC STREET	(\$450,000)	(\$450,000)

(\$450,000) (\$450,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
12th St Cape Seal				22
Capital Action	Maintain	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Streets

**Project Name** Wolf Creek Road Improvements

**Project Type** Engineering Project

**Project Number** 1401

**Description** The project includes improvements to the street section with the mill &

overlay of the asphalt, concrete sidewalk and curb & gutter.

Justification

Wolf Creek Road Improvements from CY Ave to 40th Street was designated as one of the City's higher priorities for street reconstruction due to poor asphalt conditions and no sidewalk or curb and gutter. In 2019, IMS Infrastructure Management Services performed a Citywide Streets Condition Index Survey. The Survey included an assessment of street conditions with a pavement indexing system (otherwise known as PCI or Pavement Condition Index) which factors the distress (cracking, texture, rutting, roughness, cross fall, crown, and grade), age, type (arterial, collector, local, etc.), and life cycle of Casper streets. The lower the PCI, the worse the condition. The Survey indicated that Casper's streets met a PCI of 59 out of 100 (59/100), compared to a national average of 63/100.

The 2019 Survey concluded that this section of Yucca Cir had a PCI of 38.

#### **Budget Summary**

				\$910,000	\$910,000
1401	1015000	STREET	BUILD	\$910,000	\$910,000
Project	E	Expenditures			Total

Project	Funding Source	2023	Total
1401	NATRONA	(\$769,000)	(\$769,000)
	OneCent#16 OC STREET	(\$141,000)	(\$141,000)

(\$910,000) (\$910,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Wolf Creek Road				22
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

**Work Group** Wastewater Collections

**Project Name** FY23 Oversizing Reimbursment

**Project Type** Engineering Project

Project Number 2030023001

**Description** Monies will be set aside each year for reimbursing developers for the

installation of oversized sanitary sewer interceptors in accordance to the City of Casper Sewer Master Plan. Dependent upon development location and timing, the amount of over sizing reimbursement will vary from year to year.

**Justification** 

A developer is responsible for a minimum 8-inch sewer main or larger size if needed to properly service a subdivision. Certain sewer lines need to be oversized to accommodate not only the subdivision but future developments in the area as well to serve the sewer systems as a whole. Under existing City Code, the City pays for twice the material cost difference between the oversized line and the size needed to serve a subdivision.

#### **Budget Summary**

Project         Expenditures         2023         Total           2030023001         2030035         SEWERINFRA BUILD         \$35,000         \$35,000           \$35,000         \$35,000         \$35,000           Project         Funding Source         2023         Total           2030023001         SEWER CUR         (\$35,000)         (\$35,000)			(\$35,000)	(\$35,000)
2030023001 2030035 SEWERINFRA BUILD \$35,000 \$35,000 \$35,000	2030023001	SEWER CUR	(\$35,000)	(\$35,000)
2030023001 2030035 SEWERINFRA BUILD \$35,000 \$35,000	Project	Funding Source	2023	Total
			\$35,000	\$35,000
Project Expenditures 2023 Total	2030023001	2030035 SEWERINFRA BUILD	\$35,000	\$35,000
	Project	Expenditures	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
FY23 Oversizing				11
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	None	0	2	0
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	None	0	3	0
Unfunded Percentage	0	0	0	0

Work Group Wastewater Collections

Project Name Pickup Truck Replacement

Project Type Fleet Project
Project Number 2030023004

**Description** Replacement of one 1/2 ton pickup.

**Justification** This project replaces a 2013 1/2 ton pickup that has 81,000 miles on it. The vehicle is used

for day to day operations including remote lift station inspections and other routine activities. The vehicle meets fleet replacement requirements and will be replaced with a

similar vehicle.

### **Budget Summary**

Project	Expenditures	2023	Total
2030023004	2030035 VEHICLES	\$40,000	\$40,000
		\$40,000	\$40,000

Project	Funding Source	2023	Total
2030023004	SEWER CUR	(\$40,000)	(\$40,000)

(\$40,000) (\$40,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Pickup Truck				9
Capital Action	Replace	0	0	0
Capital Type	OtherCap	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	None	0	2	0
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

**Work Group** Wastewater Collections

**Project Name** FY23 Misc Sewer Main Replacement

**Project Type** Engineering Project

Project Number 2030023005

**Description** 

These are yearly projects for sewer line replacements or sewer line re-lining for deteriorating sewer mains. Manhole rehabilitation, broken troughs and replacement of deteriorated manholes, will be components of these projects.

**Justification** 

Clay tile sewer pipe was used throughout the City prior to 1977. All sewer pipe installed since 1977 is plastic PVC pipe. Clay tile pipe is especially vulnerable to damage caused by tree root intrusion and expansive clay soils such as are present in Casper. Sections of clay tile pipe with cracks are replaced or relined. Sections of clay tile pipe with root infestation problems (roots generally grow into the main from joints or from customer owned service lines) but no structural cracks are not replaced or relined in order to stretch the available replacement monies for pipes with structural problems. The sewer lines to be replaced or re-lined will be based upon staff knowledge, emergency situations, coordination with street reconstruction projects, and closed circuit television inspections which follow planned sewer rehabilitation areas across the City.

#### **Budget Summary**

Project	E	Expenditures		Total
2030023005	2030035	2030035 SEWERINFRA BUILD		\$1,000,000
			\$1,000,000	\$1,000,000

Project	Funding Source	2023	Total
2030023005	30023005 OneCent#16 OC UTILITY		(\$500,000)
	SEWER CUR	(\$500,000)	(\$500,000)

(\$1,000,000

(\$1,000,000)

,000,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
FY23 Misc Sewer Main				10
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

**Work Group** Wastewater Collections

**Project Name** FY23 Lift Station Pump and Panel Re

**Project Type** Self Managed Project

Project Number 2030023006

**Description** FY23 Lift Station Pump and Panel Re

**Justification** This project is to improve aging sewage lift stations. Replacement items typically include

pumps and electrical panels. Lift stations are critical equipment in the wastewater collection

system.

#### **Budget Summary**

			\$30,000	\$30,000
2030023006	2030035	EQUIPMENT	\$30,000	\$30,000
Project	E	xpenditures	2023	Total

Project	Funding Source	2023	Total
2030023006	SEWER CUR	(\$30,000)	(\$30,000)

(\$30,000) (\$30,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
FY23 Lift Station Pump				12
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group Wastewater Collections
Project Name Vactor Decant Pump
Project Type Self Managed Project

Project Number 2030023007

**Description** Vactor Decant Pump

**Justification**This project is to add a decant pump to one of the existing Vactor trucks. The pump will allow for decanting water from the truck without interrupting cleaning operations. This

feature enables for more effective, efficient cleaning of larger diameter sewer interceptors.

### **Budget Summary**

Project	Expenditures		2023	Total
2030023007	2030035 EQUIPMENT		\$15,000	\$15,000
			\$15.000	\$15.000

Project	Funding Source	2023	Total
2030023007	SEWER CUR	(\$15,000)	(\$15,000)

(\$15,000) (\$15,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Vactor Decant Pump				16
Capital Action	New Cap	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

**Work Group** Wastewater Collections

**Project Name** Sewer Line Assessment Tool

**Project Type** Self Managed Project

Project Number 2030023008

**Description** Sewer Line Assessment Tool

**Justification** This tool is used to determine the amount of blockage in a sewer main. Use of the tool will

significantly reduce unnecessary cleaning of sewer mains. The tool will save staff time and

reduce wear and tear on equipment.

#### **Budget Summary**

Project	Expenditures	2023	Total
2030023008	2030035 TECHNOLOGY	\$30,000	\$30,000
		\$30,000	\$30,000

Project	Funding Source	2023	Total
2030023008	SEWER CUR	(\$30,000)	(\$30,000)

(\$30,000) (\$30,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Sewer Line Assessment				16
Capital Action	New Cap	0	0	0
Capital Type	Tech	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

**Work Group** Wastewater Treatment Plant

**Project Name** Bar Nunn #1 Lift Station Generator

**Project Type** Engineering Project

Project Number 2040023001

**Description** Replace emergency generator at the Bar Nunn #1 Sewage Lift Station.

**Justification** The Bar Nunn #1 Generator is 27 years old and has reached the end of its useful life. The

generators are required to power the sewage lift stations in times of power outages.

### **Budget Summary**

			\$90,000	\$90,000
	2040038	EQUIPMENT	\$9,000	\$9,000
2040023001 2040038 EQUIPMENT		2040038 EQUIPMENT BUILD		\$81,000
Project	Ex	kpenditures	2023	Total

\$90,000	\$90,000
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2040023001	WWTP CUR	(\$90,000)	(\$90,000)
Project	Funding Source	2023	Total

(\$90,000) (\$90,000)

Меа	sure	Response	Unweighted Score	Weight	Weighted Score
Bar Nunn #1	Lift Station				9
Capital Action	า	Replace	0	0	0
Capital Type		Fixed Eq	0	0	0
Chance of Fa	lure	NeedSoon	2	2	4
Customer Im	pact	None	0	2	0
Financial Imp	act	Moderate	2	1	2
Funding State	JS	Fully	0	0	0
Safety Impac	t	Low	1	3	3
Unfunded Pe	rcentage	0	0	0	0

Work Group Wastewater Treatment Plant

Project Name FY23 Equipment Replacements

**Project Type** Self Managed Project

Project Number 2040023003

**Description** 

This annual allocation is used to replace critical equipment that fails unexpectedly.

**Justification** 

A large portion of the WWTP equipment is 30 plus years of age. This aging equipment is used in harsh environmental conditions and is susceptible to unanticipated failure. This is critical equipment that must be replaced immediately to keep from violating compliance permits.

#### **Budget Summary**

			\$125,000	\$125,000
2040023003	2040002	EQUIPMENT	\$125,000	\$125,000
Project	Expenditures		2023	Total

Project	Funding Source	2023	Total
2040023003	WWTP CUR	(\$125,000)	(\$125,000)

(\$125,000) (\$125,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
FY23 Equipment				28
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	High	3	2	6
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

**Work Group** Wastewater Treatment Plant

**Project Name** FY23 Dewatering Building HVAC Repla

**Project Type** Engineering Project

Project Number 2040023005

**Description** This project is to replace HVAC unit MAU-39-4 on the dewatering Building.

**Justification** "The existing HVAC systems operate in harsh environments and have experienced several failures and high maintenance costs. Many of the systems are beyond their life expectancy.

Many of the WWTP buildings have air change regulations associated with them which can

not be met with failing systems."

#### **Budget Summary**

			\$150,000	\$150,000
2040023005	2040002	EQUIPMENT	\$150,000	\$150,000
Project	Expenditures		2023	Total

Project	Funding Source	2023	Total
2040023005	WWTP CUR	(\$150,000)	(\$150,000)

(\$150,000) (\$150,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
FY23 Dewatering Buildin	g			21
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Low	1	2	2
Financial Impact	High	3	1	3
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

**Work Group** Wastewater Treatment Plant

Project Name Concrete Repairs
Project Type Engineering Project

Project Number 2040023007

**Description** This project is to repair leaking wall cracks, expansion joints, pipe penetrations

and spalling to the concrete of the secondary treatment structure.

**Justification** The FY17 WWTP Facilities Plan identified numerous areas on the secondary

treatment concrete structure that are in need of this repair. The facilities plan identified this structure as having sufficient remaining useful life that the repairs are warranted. Saving this structure saves millions of dollars as

compared to replacing the concrete structures in a later upgrade.

### **Budget Summary**

Project	Expenditures		2023	Total	
2040023007	2040002	2040002 BUILDING REPAIR		\$25,000	\$25,000
				\$25,000	\$25,000

			(40= 000)
2040023007	WWTP CUR	(\$25,000)	(\$25,000)
Project	Funding Source	2023	Total

(\$25,000) (\$25,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Concrete Repairs				17
Capital Action	Maintain	0	0	0
Capital Type	Building	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Low	1	2	2
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group Wastewater Treatment Plant

**Project Name** Secondary Rehab Phase 2

**Project Type** Engineering Project

Project Number 2040023008

**Description** Secondary Rehab Phase 2

**Justification** This project is to replace 48-inch steel piping in the WWTP secondary building. The piping is

corroded, leaking and must be replaced. This piping is critical to the WWTP process.

#### **Budget Summary**

Project	Expenditures		2023	Total
2040023008	2040002	MATERIALS BUILD	\$1,500,000	\$1,500,000

\$1,500,000 \$1,500,000

Project	Funding Source	2023	Total
2040023008	WWTP CUR	(\$1,500,000)	(\$1,500,000)

(\$1,500,000

(\$1,500,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Secondary Rehab Phase	2			16
Capital Action	Replace	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Wastewater Treatment Plant
Project Name Roll-off Box Replacement
Project Type Self Managed Project

Project Number 2040023009

**Description** Roll-off Box Replacement

**Justification** This project is to replace a roll-off box that is used to transport dewatered sludge from the

WWTP to the landfill. The boxes take a pounding and are replaced every 3-5 years.

### **Budget Summary**

Project	E	Expenditures		Total
2040023009	2040002	EQUIPMENT	\$12,000	\$12,000
			\$12,000	\$12,000

Project	Funding Source	2023	Total
2040023009	WWTP CUR	(\$12,000)	(\$12,000)

(\$12,000) (\$12,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Roll-off Box Replacemen	it			13
Capital Action	Replace	0	0	0
Capital Type	OtherCap	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

**Work Group** Wastewater Treatment Plant

**Project Name** Lift Station Communication Upgrade

**Project Type** Technology Project

**Project Number** 2040023010

**Description** 

This project is to upgrade the existing sewage lift station CenturyLink communication system to radio communication.

Justification

The existing phone system communication equipment is antiquated and experiences frequent failure. Communication between the lift stations and the WWTP SCADA system is critical. This upgrade will eliminate monthly fees associated with CenturyLink service.

#### **Budget Summary**

			\$25,000	\$25,000
2040023010	2040038	EQUIPMENT	\$25,000	\$25,000
Project	Expenditures		2023	Total

Project	Funding Source	2023	Total
2040023010	WWTP CUR	(\$25,000)	(\$25,000)

(\$25,000) (\$25,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Lift Station				10
Capital Action	Replace	0	0	0
Capital Type	Tech	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group Wastewater Treatment Plant
Project Name Utility Cart Replacement

**Project Type** Self Managed Project

Project Number 2040023011

**Description** Utility Cart Replacement (660272)

**Justification**Utility Cart 660272 is a 2019 Honda Pioneer 700 with 1576 hours. The machine meets the fleet hours replacement requirement as well the maintenance cost requirements. This

machine has not worked well for its intended use and suffers frequent mechanical issues.

### **Budget Summary**

Project	Expenditures	2023	Total
2040023011	2040002 VEHICLES	\$15,000	\$15,000
		\$15.000	\$15.000

Project	Funding Source	2023	Total
2040023011	WWTP CUR	(\$15,000)	(\$15,000)

(\$15,000) (\$15,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Utility Cart Replacement				10
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

**Work Group** Wastewater Treatment Plant

Project Name DAFT Pressure Tank
Project Type Self Managed Project

**Project Number** 2040023012

**Description** Purchase and install one new DAFT pressure tank.

**Justification** The existing pressure tanks are 38 years old and are presenting operational issues.

### **Budget Summary**

		\$40.000	\$40.000
2040023012	2040002 EQUIPMENT	\$40,000	\$40,000
Project	Expenditures	2023	Total

Project	Funding Source	2023	Total
2040023012	WWTP CUR	(\$40,000)	(\$40,000)

(\$40,000) (\$40,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
DAFT Pressure Tank				10
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

**Work Group** Wastewater Treatment Plant

**Project Name** Sludge Conveyor and Auger Replaceme

**Project Type** Self Managed Project

**Project Number** 2040023014

**Description** Sludge Conveyor and Auger Replacement

**Justification** The existing conveyor and auger in the dewatering building are worn out and fail frequently.

This is critical dewatering equipment.

### **Budget Summary**

Project	Expenditures		2023	Total
2040023014	2040002	EQUIPMENT	\$100,000	\$100,000
			\$100,000	\$100,000

Project	Funding Source	2023	Total
2040023014	WWTP CUR	(\$100,000)	(\$100,000)

(\$100,000) (\$100,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Sludge Conveyor and				13
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Wastewater Treatment Plant
Project Name AB Blower Control Upgrade

**Project Type** Self Managed Project

**Project Number** 2040023015

**Description** AB Blower Control Upgrade

**Justification** The existing blower control system was installed in 2008. The system experiences frequent

failures. This project will upgrade existing SLC5/04 CPU with CompactLogix 5069-L320ER for

MCP and three LCPs and replace HMI for MCP and three LCPs.

### **Budget Summary**

			\$150,000	\$150,000
2040023015	2040002	TECHNOLOGY	\$150,000	\$150,000
Project	Expenditures		2023	Total

Project	Funding Source	2023	Total
2040023015	WWTP CUR	(\$150,000)	(\$150,000)

(\$150,000) (\$150,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
AB Blower Control				10
Capital Action	Replace	0	0	0
Capital Type	Tech	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

**Work Group** Wastewater Treatment Plant

**Project Name** AB Basin Cleaning and Diffuser Repl

**Project Type** Self Managed Project

**Project Number** 2040023016

**Description** AB Basin Cleaning and Diffuser Replacement

**Justification** This project is to drain one of four aeration basins and replace the sanitaire diffusers. The

basins have not been cleaned in 14 years and the diffusers are due for replacement.

#### **Budget Summary**

Project	Expenditures	2023	Total
2040023016	2040002 EQUIPMENT	\$80,000	\$80,000
		\$80,000	\$80,000

Project	Funding Source	2023	Total
2040023016	WWTP CUR	(\$80,000)	(\$80,000)

(\$80,000) (\$80,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
AB Basin Cleaning and				13
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

**Work Group** Wastewater Treatment Plant

**Project Name** Skidsteer Replacement

Project Type Fleet Project
Project Number 2040023017

**Description** Skidsteer Replacement (660238)

Justification Unit 660238 is a 2013 John Deere 326D with 2056 hours. The machine meets fleet

replacement requirements and will be replaced with a similar piece of equipment.

#### **Budget Summary**

Project	Expenditures	2023	Total
2040023017	2040002 EQUIPMENT	\$75,000	\$75,000
		\$75,000	\$75,000

Project	Funding Source	2023	Total
2040023017	WWTP CUR	(\$75,000)	(\$75,000)

(\$75,000) (\$75,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Skidsteer Replacement				16
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

**Work Group** Wastewater Treatment Plant

**Project Name** Dump Truck Purchase

Project Type Fleet Project
Project Number 2040023018

**Description** Dump Truck Purchase

**Justification** This will be an addition to the WWTP fleet. The vehicle, an F550 or similar sized vehicle, will

be used to haul dried industrial dirt and grease to the landfill. Currently, the WWTP has to borrow equipment from other departments which causes scheduling conflicts and ineffecint

operation.

### **Budget Summary**

Project	Expenditures		2023	Total
2040023018	2040002	EQUIPMENT	\$90,000	\$90,000
			\$90,000	\$90,000

Project	Funding Source	2023	Total
2040023018	WWTP CUR	(\$90,000)	(\$90,000)

(\$90,000) (\$90,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Dump Truck Purchase				2
Capital Action	New Cap	0	0	0
Capital Type	Vehicle	0	0	0
Financial Impact	Moderate	2	1	2

**Work Group** Wastewater Treatment Plant

**Project Name** RWWS Interceptor Improvements

**Project Type** Engineering Project

**Project Number** 2040023019

**Description** RWWS Interceptor Improvements

**Justification** This project is for interceptor improvements on the RWWS. Projects include manhole lining,

interceptor improvements, manhole diamonds, etc.

### **Budget Summary**

			\$150,000	\$150,000
2040023019	2040038 SEWERINFRA BUILD		\$150,000	\$150,000
Project	Expenditures		2023	Total

Project	Funding Source	2023	Total
2040023019	WWTP CUR	(\$150.000)	(\$150.000)

(\$150,000) (\$150,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
RWWS Interceptor				16
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Wastewater Treatment Plant
Project Name Transformer Replacement

**Project Type** Self Managed Project

Project Number 2040023020

**Description** Replacement of Operations Building Transformer that has been determined to be at the end

of its life.

**Justification** Transformers are critical electrical components at the WWTP that are required for the plant

to operate.

### **Budget Summary**

			\$75,000	\$75,000
2040023020	2040002	EQUIPMENT	\$75,000	\$75,000
Project	Expenditures		2023	Total

Project	Funding Source	2023	Total
2040023020	WWTP CUR	(\$75,000)	(\$75,000)

(\$75,000) (\$75,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Transformer Replacemen	nt			16
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Water Distribution

**Project Name** Water Dist Garage - Secondary Bldg

**Project Type** Engineering Project

**Project Number** 2010021014

**Description** This new building will be to expand the footprint of the existing water distribution garage

facilities.

**Justification** Existing, office, inventory, and vehicle storage space is limited. This addition will allow for

additional space so that personnel can better provide customer services and so that

inventory and equipment is protected from the elements.

#### **Budget Summary**

Project	Expenditures	2023	Total
2010021014	2010030 BUILDING	\$1,300,000	\$1,300,000

\$1,300,000 \$1,300,000

Project	Funding Source	2023	Total
2010021014	WATER CUR	(\$1,300,000)	(\$1,300,000)

(\$1,300,000

(\$1,300,000)

)

Measure	Response	Unweighted Score	Weight	Weighted Score
Water Dist Garage -				16
Capital Action	New Cap	0	0	0
Capital Type	Building	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

**Work Group** Water Distribution

**Project Name** FY23 Misc Water Main Replacements

**Project Type** Engineering Project

Project Number 2010023001

**Description** Annual Misc Water Main Replacements.

**Justification** 

The average water main life expectancy is 60 to 100 years. Casper has very corrosive soils leading to even shorter pipe life expectancy. Each year, a portion of the water mains must be replaced to maintain the system. These projects are aimed specifically at replacing corroded water mains, mains with breakage problems, undersized water mains with respect to fire flows or pressure, unlined cast iron mains, water mains associated with street reconstruction, and lead service lines in older areas of Casper. The projects selected for miscellaneous water main replacements are based upon staff experience in relation to the number of water main breaks for a particular line including known fire protection capabilities and if lead service lines are present. Streets which are being reconstructed will also have the water main replaced if necessary.

### **Budget Summary**

Project	Expenditures		2023	Total
2010023001	2010030	WATERINFRA	\$2,500,000	\$2,500,000
	2010030	WATERINFRA	\$250,000	\$250,000
	,		\$2,750,000	\$2,750,000

Project	Funding Source	2023	Total
2010023001	OneCent#16 OC UTILITY	(\$2,500,000)	(\$2,500,000)

(\$2,500,000

(\$2,500,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
FY23 Misc Water Main				14
Capital Action	Replace	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Water Distribution

**Project Name** FY23 Over Sizing Reimbursement

**Project Type** Self Managed Project

Project Number 2010023003

**Description** 

Funds will be set aside each year for reimbursing developers for the installation of over-sized water transmission mains in accordance to the current water master plan. Dependent upon development location and timing, the amount of over sizing reimbursement will vary from year to year.

**Justification** 

A developer is responsible for a minimum 8-inch water main or larger size if needed to properly service a subdivision. Certain water lines need to be oversized to accommodate not only the subdivision but future developments in the area as well to serve the water systems as a whole. Under existing City Code, the City pays for twice the material cost difference between the oversized line and the size needed to serve a subdivision.

#### **Budget Summary**

2010023003

WATER CUR

Project	Expenditures	2023	Total
2010023003	2010030 WATERINFRA	\$50,000	\$50,000
		\$50,000	\$50,000
		-	
Project	Funding Source	2023	Total

(\$50,000) (\$50,000)

(\$50,000)

(\$50,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
FY23 Over Sizing				10
Capital Action	Improve	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group Water Distribution

**Project Name** FY23 Paving

**Project Type** Self Managed Project

Project Number 2010023005

**Description** Paving for internal water main replacement projects.

**Justification** Existing pavement is destroyed during water main replacement projects. The streets must be

repaved when water main replacement projects are completed.

#### **Budget Summary**

			\$175,000	\$175,000
2010023005	2010030	WATERINFRA	\$175,000	\$175,000
Project	Expenditures		2023	Total

Project	Funding Source	2023	Total
2010023005	WATER CUR	(\$175,000)	(\$175,000)

(\$175,000) (\$175,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
FY23 Paving				16
Capital Action	Replace	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Water Distribution

**Project Name** Extended Cab Pickup Replacement

**Project Type** Fleet Project **Project Number** 2010023006

**Description** F-150 Extended cab pickup replacement.

**Justification** The vehicle being replaced is a 2014 F-150 with 106,000 miles. This vehicle is used for EPA

sampling as well as weekly booster and tank inspections. The vehicle meets fleet

replacement guidelines and will be replaced with a similar vehicle.

#### **Budget Summary**

Project	Expenditures	2023	Total
2010023006	2010030 VEHICLES	\$35,000	\$35,000
		\$35.000	\$35.000

Project	Funding Source	2023	Total
2010023006	WATER CUR	(\$35,000)	(\$35,000)

(\$35,000) (\$35,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Extended Cab Pickup				10
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group Water Distribution

Project Name Backhoe Replacement

Project Type Fleet Project
Project Number 2010023007

**Description** John Deere 710D Backhoe Replacement.

**Justification**The backhoe being replaced is a 2001 John Deere 710D with 5530 hours. This backhoe is used for repairing water main breaks, waterline replacement projects, and similar type work.

This is critical equipment that meets fleet replacement requirements.

#### **Budget Summary**

			\$200,000	\$200,000
2010023007	2010030	EQUIPMENT	\$200,000	\$200,000
Project	Expenditures		2023	Total

Project	Funding Source	2023	Total
2010023007	WATER CUR	(\$200,000)	(\$200,000)

(\$200,000) (\$200,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Backhoe Replacement				16
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Water Distribution

**Project Name** Water Line Utility Locator

**Project Type** Self Managed Project

Project Number 2010023008

**Description** Water Line Utility Locator Replacement.

**Justification** This tool is used to locate underground utility lines. The existing locator is at the end of it's

life cycle and requires replacement. This is critical equipment that gets used on a daily basis.

#### **Budget Summary**

			\$7,500	\$7,500
2010023008	2010030	EQUIPMENT	\$7,500	\$7,500
Project	Expenditures		2023	Total

		(\$7,500)	(\$7,500)
2010023008	WATER CUR	(\$7,500)	(\$7,500)
Project	Funding Source	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
Water Line Utility Locato	r			19
Capital Action	Replace	0	0	0
Capital Type	OtherCap	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Moderate	2	1	2
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Water Distribution

**Project Name** Power Mole Boring Machine

**Project Type** Self Managed Project

Project Number 2010023009

**Description** Power Mole Boring Machine Purchase

**Justification**This machine is used to bore in water services under asphalt and concrete surfacing to avoid

having to dig up and replace the asphalt or concrete. This machine will be in addition to the existing machine that is 20 years of age. The new machine will be smaller and facilitate use in

tighter spaces such as in the vicinity of other utilities.

#### **Budget Summary**

Project	E	Expenditures		Total
2010023009	2010030	EQUIPMENT	\$6,000	\$6,000
			\$6,000	\$6,000

Project	Funding Source	2023	Total
2010023009	WATER CUR	(\$6,000)	(\$6,000)
		(\$6,000)	(\$6,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Power Mole Boring				13
Capital Action	New Cap	0	0	0
Capital Type	OtherCap	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Water Distribution

**Project Name** Water Sample Test Station Replacem

**Project Type** Self Managed Project

Project Number 2010023010

**Description** Water Sample Test Station Replacements.

**Justification** This project is to replace six water sample test stations. These stations are used for pulling

EPA required water quality samples. The stations deteriorate with age and use and are in

need of replacement.

#### **Budget Summary**

			\$13,000	\$13,000
2010023010	2010030	WATERINFRA	\$13,000	\$13,000
Project	E	Expenditures		Total

		(642.000)	(#42.000)
2010023010	WATER CUR	(\$13,000)	(\$13,000)
Project	Funding Source	2023	Total

(\$13,000) (\$13,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Water Sample Test				15
Capital Action	Replace	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	0	0	0	0

Work Group Water Distribution

Project Name Fire Hose Replacement
Project Type Self Managed Project

Project Number 2010023011

**Description** Fire Hose Replacement

**Justification** Water Distribution crews use fire hoses during main flushing operations. The existing hoses

are at the end of their life and require replacement.

#### **Budget Summary**

Project	Ex	penditures	2023	Total
2010023011	2010030	MATERIALS	\$7,000	\$7,000
			\$7,000	\$7.000

		(\$7,000)	(\$7,000)
2010023011	WATER CUR	(\$7,000)	(\$7,000)
Project	Funding Source	2023	Total

Measure	Response	Unweighted Score	Weight	Weighted Score
Fire Hose Replacement				10
Capital Action	Replace	0	0	0
Capital Type	Ops	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group Water Distribution

**Project Name** Meter Service Inventory Shelving

**Project Type** Self Managed Project

**Project Number** 2010023012

**Description** Meter Service Inventory Shelving Purchase

**Justification** This project is to replace the existing shelving that is many years old and does not meet

OSHA load rating requirements.

#### **Budget Summary**

			\$15,000	\$15,000
2010023012	2010031	MATERIALS	\$15,000	\$15,000
Project	E	Expenditures		Total

\$15,000 \$15,000

Project	Funding Source	2023	Total
2010023012	WATER CUR	(\$15,000)	(\$15,000)

(\$15,000) (\$15,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Meter Service Inventory				16
Capital Action	Replace	0	0	0
Capital Type	Study	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	High	3	3	9
Unfunded Percentage	0	0	0	0

Work Group Water Distribution

**Project Name** FY23 Water Line Materials

**Project Type** Self Managed Project

Project Number 2010023014

**Description** FY23 Water Line Materials Purchase

**Justification** Water line materials are purchased to be used during both scheduled and emergency water

main replacement projects. The materials being replaced are beyond their useful life.

#### **Budget Summary**

Project	Expenditures	2023	Total
2010023014	2010030 WATERINFRA	\$125,000	\$125,000
		\$125,000	\$125,000

Project	Funding Source	2023	Total
2010023014	WATER CUR	(\$125,000)	(\$125,000)

(\$125,000) (\$125,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
FY23 Water Line Materia	ls			12
Capital Action	Replace	0	0	0
Capital Type	Infra	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group Water Distribution

**Project Name** FY23 Booster Station Improvements

**Project Type** Self Managed Project

**Project Number** 2010023015

**Description** FY23 Booster Station Improvements

**Justification** This project is for purchasing items needed for booster station improvement projects. Items

such as pumps, valves, surge control devices, and vault/buildings are included. The

equipment being replaced is beyond its useful life.

#### **Budget Summary**

Project	Ex	kpenditures	2023	Total
2010023015	2010032 EQUIPMENT		\$100,000	\$100,000
			\$100,000	\$100,000

Project	Funding Source	2023	Total
2010023015	WATER CUR	(\$100,000)	(\$100,000)

(\$100,000) (\$100,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
FY23 Booster Station				12
Capital Action	Replace	0	0	0
Capital Type	Fixed Eq	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Moderate	2	2	4
Financial Impact	Low	1	1	1
Funding Status	Fully	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	0	0	0	0

Work Group Weed & Pest

**Project Name** Replace Pickup 83251

Project Type Fleet Project
Project Number 1100022001

**Description** 

Replace Unit 83251 with a new 6ft bed 4x4. Two of the three qualifying criteria are met. The two criteria are age and miles.

**Justification** 

Unit 83251 is a 2x4 truck that is 16 years old. This pickup meets 2 of the 3 criteria for replacement. Those two criteria are age and miles. Weed and Pest is in need of an additional 4x4 vehicle. This truck is used during snow and is our main salt truck. In addition, this truck is used to pull mowers for rough area mowing. It is not uncommon for the truck and trailer to be pulled into the rough areas off pathways, the interstate ramps and other city lots that need maintenance. The importance of safety is always my first concern. When operating any trucks or equipment in areas where there is a possibility of mud or sliding, 4x4 is essential. This will reduce accidents and help increase efficiency.

(\$120,000) (\$120,000)

#### **Budget Summary**

		-	-	\$120,000	\$120,000
	110	VEHICLE	ES	\$86,000	\$86,000
1100022001	110	ITEMS	PURCHASE	\$34,000	\$34,000
Project		Expend	itures	2023	Total

Project	Funding Source	2023	Total
1100022001	OTHRFNDCUR	(\$120,000)	(\$120,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Replace Pickup 83251				17
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	None	0	2	0
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

Work Group Weed & Pest

**Project Name** Replace 81059 Slope Mower

Project Type Fleet Project
Project Number 1100023002

Description

Purchase a new rough mower for maintaining non-irrigated areas

**Justification** 

81059 is a remote controlled mower with tracks. The tracks have become problematic (falling off at least once a week when it was running) and this unit was down all last summer due to electrical issues (fuses blowing every time we try to start it) making it unusable. Staff believes this unit is a lemon. Staff would like to replace this unit with a unit that will assist in fulfilling rough area mowing.

#### **Budget Summary**

			\$69,000	\$69,000
1100023002	110	EQUIPMENT	\$69,000	\$69,000
Project		Expenditures	2023	Total

Project	Funding Source	2023	Total
1100023002	OTHRFNDCUR	(\$69,000)	(\$69,000)

(\$69,000) (\$69,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Replace 81059 Slope				10
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	NeedSoon	2	2	4
Customer Impact	Low	1	2	2
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	Low	1	3	3
Unfunded Percentage	100	0	0	0

Work Group Weed & Pest

**Project Name** Replace 83243 Maxey Trailer

Project Type Fleet Project
Project Number 1100023003

**Description** Replace 83243 Maxey Tilt Trailer.

**Justification** 83243 is a 20 year old trailer. Staff would like to replace it with a newer slightly longer tilt

bed trailer to assist in hauling mowers into the field.

#### **Budget Summary**

			\$18.000	\$18,000
1100023003	110	EQUIPMENT	\$18,000	\$18,000
Project		Expenditures	2023	Total

Project	Funding Source	2023	Total
1100023003	OTHRENDCUR	(\$18,000)	(\$18,000)

(\$18,000) (\$18,000)

Measure	Response	Unweighted Score	Weight	Weighted Score
Replace 83243 Maxey				17
Capital Action	Replace	0	0	0
Capital Type	Vehicle	0	0	0
Chance of Failure	Need Now	5	2	10
Customer Impact	None	0	2	0
Financial Impact	Low	1	1	1
Funding Status	Unknown	0	0	0
Safety Impact	Moderate	2	3	6
Unfunded Percentage	100	0	0	0

# **SECTION 2:**

# **CAPITAL PROJECT FUNDING**

## **Navigation Assistance:**

- 1. Jump back to Project Detail Section
- 2. Proceed to Projects by Funding Source
- 3. Jump forward to Five Year Capital Plan

# **Capital Projects By Source of Funding**

	Funding S	Source	2023	Page
BALEFILL RESER	VES		(\$1,880,520)	2
CAPITAL RESERY	VES		(\$1,433,482)	3
CEDAR IMPACT	FUNDING		(\$429,500)	4
FEDERAL			(\$5,592,508)	4
NATRONA COL	JNTY		(\$912,000)	4
OneCent#15	OC RIVER		(\$395,000)	4
OneCent#16	OC CATC	OC16CATCOP	(\$340,683)	4
OneCent#16	OC FIRE	OC16FEQP	(\$301,753)	5
OneCent#16	OC PARKS	OC16GOLF	(\$80,000)	5
OneCent#16	OC PARKS	OC16IRRIGA	(\$444,000)	5
OneCent#16	OC PARKS	OC16PLAGRN	(\$477,000)	5
OneCent#16	OC PARKS	OC16PRKVEH	(\$262,000)	5
OneCent#16	OC PARKS	OC16TRAILS	(\$157,172)	5
OneCent#16	OC POLICE	OC16PDEQUP	(\$321,038)	5
OneCent#16	OC POLICE	OC16PDSTAT	(\$1,290,479)	6
OneCent#16	OC STREET	OC16STEQUP	(\$829,000)	6
OneCent#16	OC STREET	OC16STMISC	(\$6,119,000)	6
OneCent#16	OC SWIMREC	OC16CECIMP	(\$1,093,000)	7
OneCent#16	OC SWIMREC	OC16ICEIMP	(\$42,000)	7
OneCent#16	OC SWIMREC	OC16RECHVA	(\$15,000)	7
OneCent#16	OC SWIMREC	OC16SRPOOL	(\$162,000)	7
OneCent#16	OC UTILITY	OC16SEWER	(\$500,000)	7
OneCent#16	OC UTILITY	OC16WATER	(\$2,500,000)	7
OPPORTUNITY			(\$1,310,000)	11
OTHER FUND R	ESERVES		(\$691,241)	13
PERPETUAL CAR	RE		(\$30,000)	13
PRIVATE			(\$694,500)	14
REFUSE RESERV	'ES		(\$2,321,200)	14
SCHOOL DIST			(\$17,000)	15
SEWER CURREN	J		(\$650,000)	15
STATE			(\$280,000)	15
WATER CURREN	NT		(\$2,033,500)	16
WWTP CURREN	IT		(\$2,702,000)	16

Total One Cent 16: (\$14,934,125)

**CAPITAL EXPENDITURE FY23 TOTAL** 

(\$36,306,576)

Funding Source	Project Listing	2023	2024	2025	2026	2027
BALEFILL RESERVES		(\$1,880,520)	(\$3,404,605)	(\$1,445,520)	(\$2,630,520)	(\$1,280,520)
River Fund	1061024001 - Knife River-River Restoration CQA		(\$225,235)			
Balefill	2060021003 - Landfill Fencing	(\$122,520)	(\$122,520)	(\$122,520)	(\$122,520)	(\$122,520)
Balefill	2060022020 - GPS for Landfill Equipment	(\$53,000)	(\$54,000)	(\$55,000)		
Balefill	2060022021 - Portable Variable Sign-Replacement	(\$60,000)				
Balefill	2060022026 - Wheel Loader Replacement	(\$365,000)	(\$375,000)	(\$385,000)	(\$395,000)	
Balefill	2060022027 - Excavator		(\$365,000)			
Balefill	2060023004 - Bale Haul Trucks	(\$240,000)				
Balefill	2060023005 - Road Grader Purchase	(\$300,000)				
Balefill	2060023006 - 906 Loader for MRF	(\$45,000)				
Balefill	2060023010 - Hazardous Waste Storage Addition			(\$135,000)		
Balefill	2060023012 - Landfill Maintenance Bldg Redesign		(\$41,250)		(\$1,200,000)	
Balefill	2060023013 - Lighting Replacement to LED	(\$20,000)				
Balefill	2060023015 - Solid Waste Asphalt Improvements	(\$150,000)	(\$150,000)	(\$150,000)		
Balefill	2060023016 - Storm Water Infrastructure Imp.	(\$150,000)	(\$30,000)	(\$30,000)	(\$30,000)	(\$30,000)
Balefill	2060023017 - Scale House Exit Renovation	(\$50,000)				
Balefill	2060023018 - WTR & WWTR Svc lines Cmpst Bldg	(\$50,000)				
Balefill	2060023019 - Upgrade garage doors	(\$38,000)	(\$38,000)	(\$38,000)	(\$38,000)	(\$38,000)
Balefill	2060023020 - Compact Tractor "Ventrac" Mower	(\$32,000)				
Balefill	2060023021 - Water Truck	(\$120,000)				
Balefill	2060023022 - Landfill Supervisor Truck	(\$85,000)				
Balefill	2060024002 - Replace Power Washer at Baler Bldg		(\$8,600)			
Balefill	2060024003 - Landfill Compactor Replacement		(\$420,000)			
Balefill	2060024004 - ReUse Bldg next to Compost Equip Bl		(\$450,000)			(\$450,000)
Balefill	2060024005 - Scraper (backup Articulating Haul T		(\$650,000)			
Balefill	2060024006 - Compactor		(\$420,000)			
Balefill	2060024008 - Transfer Station Crew Truck		(\$55,000)			
Balefill	2060025003 - Water Truck Replacement			(\$165,000)		
Balefill	2060025005 - Rolloff Truck			(\$150,000)		
Balefill	2060025006 - Side Dump Trailer for 4" wood chips			(\$90,000)		

Funding Source	Project Listing	2023	2024	2025	2026	2027
Balefill	2060025008 - Rear Load Litter Truck			(\$95,000)		
Balefill	2060025009 - ATV enclosed cab			(\$30,000)		
Balefill	2060026003 - Tandem Single Axle Dump Truck				(\$210,000)	
Balefill	2060026004 - Articulating Haul Truck				(\$550,000)	
Balefill	2060026005 - Crew Truck for Landfill				(\$85,000)	
Balefill	2060027001 - Giger Counters for Entrance Scale					(\$100,000)
Balefill	2060027002 - Baler Bldg Supervisor Truck					(\$85,000)
Balefill	2060027003 - Loader					(\$395,000)
Balefill	2060027004 - Baler Bldg Forklift					(\$60,000)
CAPITAL RESERVES		(\$1,433,482)	(\$455,000)	(\$310,000)	(\$115,000)	
Information Systems	1013223002 - Network Switch Repl - HOJ and PSCC	(\$13,000)		(\$15,000)		
Information Systems	1013223003 - Server Upgrades FY23	(\$165,000)		(\$200,000)		
Information Systems	1013223004 - City Website Redesign	(\$45,000)				
Streets	1015121214 - Midwest - Walnut to Poplar	(\$210,189)				
Fire EMS Department	1018021007 - Station 1 Breathing Air Compressor	(\$85,500)				
Fire EMS Department	1018021014 - Alternative Response Vehicle (ARV)		(\$320,000)			
Fire EMS Department	1018023011 - Fire Station 1 Rehab	(\$75,000)				
Fire EMS Department	1018023014 - Drill Tower Concrete Ex Pad	(\$75,000)				
Cemetery	1019122002 - Cemetery Mower - Unit 90965	(\$52,000)				
Cemetery	1019123002 - Replace UTV/Sprayer 83293	(\$39,000)				
Weed & Pest	1100023001 - Replace 81051 2WD Pickup		(\$40,000)			
Aquatics	2210024003 - PV Pool - Gutter Replacement	(\$331,793)				
Municipal Golf Course	2220022018 - Driving range ball dispenser	(\$35,000)				
Hogadon Ski Area	2250022003 - Utility Terrain Vehicles	(\$38,000)				
Hogadon Ski Area	2250023001 - Replace Tracked ATV	(\$42,000)				
Hogadon Ski Area	2250023002 - Stain Wooden Beams	(\$22,000)				
Fleet Maintenance	2510022002 - Fuel Island Canopy				(\$40,000)	
Fleet Maintenance	2510023001 - Tire Bay Lift Repair	(\$80,000)				
Fleet Maintenance	2510023002 - Portable Lifts Replacement	(\$75,000)	(\$95,000)	(\$95,000)	(\$75,000)	
Buildings and Structures	2520023001 - Replace vehicle #084031	(\$50,000)				

Funding Source	Project Listing	2023	2024	2025	2026	2027
CEDAR IMPACT		(\$429,500)	(\$75,000)			
Fire EMS Department	1018021013 - Utility Terrain Vehicle (UTV)	(\$30,000)				
Fire EMS Department	1018022002 - Brush 6 Replacement	(\$200,000)				
Fire EMS Department	1018023015 - 3 Replacement Support Vehicles	(\$199,500)				
Fire EMS Department	1018023027 - Westnet Dispatch Software and Work		(\$75,000)			
FEDERAL		(\$5,592,508)	(\$12,000,000)			(\$10,000,000)
Information Systems	1013223005 - Fiber Network Phase II	(\$2,000,000)				
Streets	1015121214 - Midwest - Walnut to Poplar	(\$2,000,000)				
River Fund	1061021001 - First Street Gateway	(\$980,000)				
Water Distribution	2010024005 - 10 MG Reservoir Replacement		(\$12,000,000)			
Wastewater Treatment Plant	2040027001 - NPSS Rehabilitation Phase 2					(\$10,000,000)
Public Transit	1150023003 - Transit Security Fence and Lighting	(\$154,254)				
Public Transit	1150023003 - Transit Security Fence and Lighting	(\$154,254)				
Public Transit	1150023004 - Transit Shelters	(\$16,000)				
Public Transit	1150023001 - ASSIST and LINK BUS	(\$288,000)				
GENERAL FUND CURRENT			(\$78,000)			
City Attorney	1010024001 - Photocopier for Attorney's Office		(\$10,000)			
City Manager	1011124001 - City Manager's Office Photocopier		(\$18,000)			
Buildings and Structures	2520023002 - Replace vehicle #084034		(\$50,000)			
NATRONA COUNTY		(\$912,000)				
River Fund	1061021001 - First Street Gateway	(\$143,000)				
Streets	1401 - Wolf Creek Road Improvements	(\$769,000)				
OneCent#15 - OC RIVER -		(\$395,000)				
River Fund	1060023001 - Bryan Stock Trail Boatramp	(\$18,000)				
River Fund	1061021001 - First Street Gateway	(\$377,000)				
OneCent#16 - OC CATC - OC16CA	ATCOP	(\$340,683)			(\$15,000	)
Code Enforcement	1016123001 - CODE ENFRC FLEET VEHICLE	(\$33,000)				
Public Transit	1150023001 - ASSIST and LINK BUS	(\$72,000)				

Funding So	ource		Project Listing	2023	2024	2025	2026	2027
Public Transit		1150023002 -	Transit Employee Parking Lot	(\$231,683)				
Public Transit		1150023004 -	Transit Shelters	(\$4,000)				
Fleet Maintenance		2510022002 -	Fuel Island Canopy				(\$15,000)	
OneCent#16 - OC FIRE	- OC16FEQP			(\$301,753)				
Fire EMS Department		1018021006 -	50 Replacement Portable Radios	(\$260,753)				
Fire EMS Department		1018023004 -	Annual Turnout Gear Replacements	(\$19,000)				
Fire EMS Department		1018023009 -	Station 6 Extractor and Gear Dryer	(\$22,000)				
OneCent#16 - OC PARKS	S - OC16GOLF			(\$80,000)				
Municipal Golf Course		2220021004 -	3 - Toro Greensmaster triplex rpl	(\$80,000)				
OneCent#16 - OC PARKS	S - OC16IRRIGA	A		(\$444,000)				
Parks		1019021003 -	Washington Field Lights Replacement	(\$144,000)				
Parks		1019021025 -	Parks Irrigation Misc Improvements	(\$300,000)				
OneCent#16 - OC PARKS	S - OC16PLAGE	RN		(\$477,000)				
Parks		1019021003 -	Washington Field Lights Replacement	(\$202,000)				
Parks		1019021017 -	Playground and Fall Material Repl	(\$62,500)				
Parks		1019021018 -	Miscellaneous Park Improvements	(\$37,500)				
Parks		1019022009 -	Resurface Washington Tennis	(\$50,000)				
Recreation Center		2240023004 -	Washington Field Bathrooms Upgrade	(\$125,000)				
OneCent#16 - OC PARKS	S - OC16PRKVE	Н		(\$262,000)				
Parks		1019022008 -	Replace John Deere 1600 mower	(\$79,000)				
Parks		1019022010 -	Replace Parks Backhoe	(\$139,000)				
Parks		1019023001 -	Replace Toro Zero Turn mower	(\$44,000)				
OneCent#16 - OC PARKS	S - OC16TRAILS	S		(\$157,172)	(\$143,389)			
Parks		1019023006 -	PRTT FY23 Trail Maintenance	(\$157,172)	(\$143,389)			
OneCent#16 - OC POLIC	E - OC16PDEQU	JP		(\$321,038)				
Police Administration			18 Marked Units	(\$161,310)				
Police Administration		1017023012 -	4 Unmarked Units	(\$159,728)				

Funding Source	Project Listing	2023	2024	2025	2026	2027
OneCent#16 - OC POLICE - OC16PDS1	ГАТ	(\$1,290,479)				
Police Administration	1017023011 - 18 Marked Units	(\$1,290,479)				
OneCent#16 - OC RIVER - OC16RIVER	R			(\$1,500,000)		
River Fund	1061025001 - North Casper River Restoration			(\$1,500,000)		
OneCent#16 - OC STORM - OC16STO	PRM		(\$6,000,000)			
Streets	1015121022 - Truck Barn		(\$6,000,000)			
OneCent#16 - OC STREET - OC16STEC	QUP	(\$829,000)	(\$300,000)			
Streets	1015121009 - 70961 One Ton Flat Bed Pick-up		(\$60,000)			
Streets	1015121010 - 70952 Steel Wheel Roller		(\$120,000)			
Streets	1015121012 - Unit 151569 One Ton 4x4 Flat Bed		(\$60,000)			
Streets	1015121114 - 70994 1/2 Ton 4x4 Ext Cab Short Box		(\$60,000)			
Streets	1015123001 - 70981 Tandem Axle Plow/Sander	(\$235,000)				
Streets	1015123002 - 70986 Tandem Axle Plow/Sander	(\$235,000)				
Streets	1015123003 - 70973 Snow Blower	(\$250,000)				
Streets	1015123004 - Traffic Sign Plotter	(\$9,000)				
Streets	1015223001 - Misc Traffic Equipment	(\$100,000)				
OneCent#16 - OC STREET - OC16STM	ISC	(\$6,119,000)	(\$318,119)			
Streets	1015022005 - Mariposa Blvd-Ridgecrest to Brkview	(\$590,000)				
Streets	1015023013 - Bryan Stock Trl Cape Seal	(\$175,000)				
Streets	1015023014 - Missouri Avenue – 15th to 21st		(\$318,119)			
Streets	1015023015 - Coffman Ave from Essex to 25th Stre	(\$1,146,000)				
Streets	1015023016 - Westridge Improvements	(\$1,040,000)				
Streets	1015123006 - East 21st Street Improvements	(\$401,000)				
Streets	1015123008 - College Drive Improvements	(\$376,000)				
Streets	1015123009 - East 2nd Street Cape Seal - Hat Six	(\$805,000)				
Engineering Division	1015123011 - 2022 Standard Specifications Update	(\$45,000)				
Streets	1015123016 - Oak Street Improvements -CY to 14th	(\$900,000)				
Streets	1015123222 - Center St Decorative Light Upgrade	(\$50,000)				

Streets 101523017 - 12th St Cape Seal Streets 1401 - Wolf Creek Road Improvements  OneCent#16 - OC SWIMREC - OC16CECIMP  Ford Wyoming Center 2260021001 - South Walkway Replacements  Ford Wyoming Center 2260021009 - Kitchen Convection Oven Reference Wyoming Center 2260021015 - Volleyball Court Replacement	eplacement (\$113,000)				
OneCent#16 - OC SWIMREC - OC16CECIMP  Ford Wyoming Center 2260021001 - South Walkway Replacement 2260021009 - Kitchen Convection Oven Replacement 2260021000 - Kitchen Convection Oven Replacement 226002100 - Kitchen Convection Oven Re	(\$1,093,000) at (\$736,000) eplacement (\$113,000)				
Ford Wyoming Center 2260021001 - South Walkway Replacement 2260021009 - Kitchen Convection Oven Replacement 2260021000 - Kitchen Convection Oven Replacement 226002100 - Kitchen Convection Oven Replacement 2260000 - Kitchen Convection	eplacement (\$736,000) (\$113,000)				
Ford Wyoming Center 2260021009 - Kitchen Convection Oven Re	eplacement (\$113,000)				
, 3					
Ford Wyoming Center 2260021015 - Volleyhall Court Replaceme	(4.0.00)				
Tota vvyotiming center 220002 to 15 Volleyban court Replacement	nt (\$49,000)				
Ford Wyoming Center 2260021016 - Concession Ice Machines	(\$31,000)				
Ford Wyoming Center 2260023001 - FWC New Boiler Exhaust Ve	nting (\$128,000)				
Ford Wyoming Center 2260023002 - FWC Box Office ADA Windo	ws Repl (\$36,000)				
OneCent#16 - OC SWIMREC - OC16ICEIMP	(\$42,000)				
Ice Arena 2230021001 - CIA CONCESSION OVEN	(\$16,000)				
Ice Arena 2230023003 - Accessible Walkway Fall Pro	tection (\$26,000)				
OneCent#16 - OC SWIMREC - OC16RECHVA	(\$15,000)				
Recreation Center 2240023002 - Replace CRC Commercial Di	ryer & (\$15,000)				
OneCent#16 - OC SWIMREC - OC16SRPOOL	(\$162,000)				
Aquatics 2210023002 - CFAC - New Leisure Pool Pu					
Aquatics 2210023003 - MK Pool - New Main Pool P	ump (\$7,000)				
Aquatics 2210023004 - W Pool - New Main Pool Pu	imp (\$7,000)				
Aquatics 2210024003 - PV Pool - Gutter Replaceme	ent (\$140,000)				
OneCent#16 - OC UTILITY - OC16SEWER	(\$500,000)				
Wastewater Collections 2030023005 - FY23 Misc Sewer Main Repla	acement (\$500,000)				
OneCent#16 - OC UTILITY - OC16WATER	(\$2,500,000)				
Water Distribution 2010023001 - FY23 Misc Water Main Repla	acements (\$2,500,000)				
OneCent#17 - OC FIRE - OC17FVEH		(\$72,500)	(\$750,000)	(\$1,500,000)	
Fire EMS Department 1018022006 - E1 Replacement		(1 13)	(\$750,000)	. , , , ,	
Fire EMS Department 1018022008 - Truck 1 Replacement				(\$1,500,000)	
Fire EMS Department 1018023016 - Replacement Support Vehic	le	(\$72,500)		,	

Funding Sc	ource		Project Listing	2023	2024	2025	2026	2027
OneCent#17 - OC FIRE	- OC17FEQUP				(\$3,847,500)	(\$1,610,800)	(\$672,592)	(\$12,195,800)
Fire EMS Department		1018022017 -	Red Boat Motor: Merc Jet 40 HP		(\$8,000)			
Fire EMS Department		1018022007 -	Fire Station 1 Replacement					(\$12,000,000)
Fire EMS Department		1018022013 -	Regional Fire Training Update		(\$3,000,000)			
Fire EMS Department		1018022014 -	DJI Matrice 300 Drone Thermal			(\$40,000)		
Fire EMS Department		1018022015 -	Replacement Rescue Platform Raft		(\$6,000)			
Fire EMS Department		1018022016 -	6 Motorola APX All Band Consollette				(\$51,792)	
Fire EMS Department		1018022018 -	25 Motorola APX8000XE Port. Radios		(\$135,000)			
Fire EMS Department		1018022019 -	6 New Cardiac Monitors			(\$300,000)		
Fire EMS Department		1018023005 -	FY24 Annual Turnout Gear Replace		(\$19,000)			
Fire EMS Department		1018023007 -	FY26 Turnout Gear Replacement				(\$20,800)	
Fire EMS Department		1018023008 -	FY27 Bunker Gear Replacement					(\$20,800)
Fire EMS Department		1018023010 -	Station 5 Extractor and Gear Dryer		(\$22,000)			
Fire EMS Department		1018023012 -	New 44" Plotter Scanner		(\$7,000)			
Fire EMS Department		1018023013 -	Digital Touchscreen Plan Table		(\$15,000)			
Fire EMS Department		1018023019 -	Station 3 Air Compressor		(\$85,500)			
Fire EMS Department		1018023306 -	FY25 Bunker Gear Replacement			(\$20,800)		
Fire EMS Department		1018022003 -	Replacement Extrication Equipment		(\$150,000)			
Fire EMS Department		1018022009 -	Rescue 1 Replacement				(\$600,000)	
Fire EMS Department		1018023001 -	Engine 5 Quint Replacement			(\$1,250,000)		
Fire EMS Department		1018023017 -	Replacement Support Vehicles					(\$175,000)
Fire EMS Department		1018023026 -	Replace Brush 5		(\$400,000)			
OneCent#17 - OC MUSE	UMS - OC17PAF	RK			(\$599,000)	(\$1,295,000)	(\$1,713,000)	
Fort Caspar Museum		1019224001 -	Fort building log repair and daubin		(\$599,000)			
Fort Caspar Museum		1019225001 -	Fort building log repair and daubin			(\$1,295,000)		
Fort Caspar Museum		1019226001 -	Fort building log repairs and daubi				(\$1,713,000)	
OneCent#17 - OC REC	-				(\$1,452,000)			
Recreation Center		2240023007 -	Recreation Center Entry Improvement		(\$1,452,000)			
OneCent#17 - OC RIVER	-				(\$1,383,000)	(\$1,500,000)		
River Fund		1061022001 -	Izaak Walton River Project		(\$245,000)			

Funding Source	Project Listing	2023	2024	2025	2026	2027
River Fund	1061024002 - Knife River Phytoremediation		(\$1,138,000)			
River Fund	1061025001 - North Casper River Restoration			(\$1,500,000)		
OneCent#17 - OC STREET - OC17STEQ	UP		(\$334,600)	(\$2,660,000)	(\$650,000)	(\$650,000)
Streets	1015121020 - Streets Unit 70931 Road Planer					(\$650,000)
Streets	1015121023 - Equipment Material Storage Building			(\$2,000,000)		
Streets	1015121117 - 70720 Crafco Melter			(\$90,000)		
Streets	1015121118 - Streets Unit 70723 Bobcat Skidsteer			(\$85,000)		
Streets	1015121119 - Streets Unit 70725 Bobcat			(\$85,000)		
Streets	1015124001 - 70992 Tandem Axle Plow/Sander		(\$250,000)			
Streets	1015124002 - Graco Buggy's		(\$16,000)			
Streets	1015124003 - 2 Graco Sprayers		(\$18,600)			
Streets	1015124004 - 60666 Half Ton 4x4 Pick-up		(\$50,000)			
Streets	1015125002 - 70718 Tandem Axle Plow/Sander			(\$250,000)		
Streets	1015125003 - Material Stacker for Ice Shed			(\$150,000)		
Streets	1015126001 - 2 Front End Loaders				(\$650,000)	
OneCent#17 - OC SWIMREC -			(\$255,000)	(\$173,000)	(\$11,000)	
Recreation Center	2240021003 - CRC Ceiling Tiles				(\$11,000)	
Recreation Center	2240022001 - CRC Replacement Equipment			(\$60,000)		
Recreation Center	2240024004 - Concessions CRC		(\$255,000)			
Recreation Center	2240025001 - BUILDING SIGNAGE			(\$50,000)		
Recreation Center	2240025002 - STEAM ROOM			(\$19,000)		
Recreation Center	2240025003 - CRC Parking Lot Lighting			(\$44,000)		
OneCent#17 - OC SWIMREC - OC16ICE	IMP		(\$68,000)	(\$20,000)		
Ice Arena	2230024002 - Floor Scrubber for Ice Arena		(\$9,000)			
Ice Arena	2230024003 - Refrigeration Compresso Maintenance		(\$20,000)			
Ice Arena	2230024004 - Replace Speakers and Sound System		(\$39,000)			
Ice Arena	2230025002 - Replace Dehumidifiers Ice Arena			(\$20,000)		
OneCent#17 - OC SWIMREC - OC17ICE			(\$153,000)	(\$18,986,000)		
Ice Arena	2230024001 - Joist Painting		(\$153,000)			

Funding Source	Project Listing	2023	2024	2025	2026	2027
Ice Arena	2230025001 - Ice Arena Expansion with 2nd ice sh			(\$18,986,000)		
OneCent#17 - OC SWIMREC - OC1	17ICEIMP			(\$44,000)		
Ice Arena	2230025003 - Parking Lot Light Poles			(\$44,000)		
OneCent#17 - OC SWIMREC - OC1	7POOL		(\$1,974,000)	(\$25,000)	(\$1,367,000)	(\$14,178,000)
Aquatics	2210023005 - CFAC/MS - Flooring Project		(\$81,000)			
Aquatics	2210024001 - CFAC - New Lazy River Pump		(\$9,000)			
Aquatics	2210024002 - CFAC - New Play Feature Pump		(\$9,000)			
Aquatics	2210024004 - PV Pool - New Slide Pump		(\$13,000)			
Aquatics	2210024005 - PV - Slide Improvements		(\$53,000)			
Aquatics	2210024007 - MK Pool - Filter Improvements		(\$509,000)			
Aquatics	2210025003 - MS Pool - New Lazy River Pump			(\$25,000)		
Aquatics	2210025009 - Water Park at a location TBD					(\$14,012,000)
Aquatics	2210026003 - MS Pool - New Taller Fence				(\$45,000)	
Aquatics	2210026004 - CFAC - Sun Deck Improvements				(\$1,322,000)	
Aquatics	2210027001 - MS Pool - Wall Improvements					(\$14,000)
Aquatics	2210027002 - CFAC - Wall Improvements					(\$152,000)
Recreation Center	2240024003 - Locker Room Update		(\$1,300,000)			
OneCent#17 - OC UTILITY - OC175	SEWER		(\$500,000)	(\$500,000)	(\$1,000,000)	(\$500,000)
Wastewater Collections	2030024005 - FY24 Misc Sewer Main Replacement		(\$500,000)			
Wastewater Collections	2030025004 - FY25 Misc Sewer Main Replacement			(\$500,000)		
Wastewater Collections	2030026003 - FY26 Sewer Main Replacements				(\$1,000,000)	
Wastewater Collections	2030027001 - FY27 Misc Sewer Main Replacements					(\$500,000)
OneCent#17 - OC UTILITY - OC17\	WATER		(\$2,500,000)	(\$2,500,000)	(\$2,500,000)	(\$2,500,000)
Water Distribution	2010024001 - FY24 Misc Water Main Replacements		(\$2,500,000)			
Water Distribution	2010025001 - FY25 Misc Water Main Replacements			(\$2,500,000)		
Water Distribution	2010026001 - FY26 Misc Water Main Replacements				(\$2,500,000)	
Water Distribution	2010027001 - FY27 Misc Water Main Replacements					(\$2,500,000)

Funding Source	Funding Source Project Listing		2024	2025	2026	2027
OPPORTUNITY FUND		(\$1,310,000)	(\$7,578,295)	(\$5,422,820)	(\$8,197,000)	(\$121,000)
Streets	1015123017 - E Street Extension	(\$200,000)				
Fire EMS Department	1018023018 - Station 2 Covered Patio		(\$150,000)			
Parks	1019021002 - Crossroads Softball Field Lighting			(\$483,000)		
Parks	1019021005 - Tani Field Lights		(\$407,000)			
Parks	1019021006 - Washington Fence Replacement		(\$47,000)			
Parks	1019021008 - Crossroads 4 Lights				(\$407,000)	
Parks	1019021009 - Field Of Dreams Field Renovation		(\$70,000)			
Parks	1019021010 - Material Storage			(\$31,820)		
Parks	1019021012 - Athletic Field Sprayer		(\$55,000)			
Parks	1019021014 - ABI Force Infield Machine			(\$41,000)		
Parks	1019021017 - Playground and Fall Material Repl		(\$125,000)	(\$125,000)	(\$125,000)	
Parks	1019021018 - Miscellaneous Park Improvements		(\$100,000)	(\$100,000)	(\$100,000)	
Parks	1019021019 - Mike Sedar Fence Replacement			(\$47,000)		
Parks	1019021021 - Crossrosds SB Infield Renovation		(\$70,000)			
Parks	1019021023 - Aerator for Athletics			(\$41,000)		
Parks	1019022020 - Field of Dreams Backstop		(\$82,000)			
Parks	1019022024 - Replace Tani Field Score board		(\$29,000)			
Parks	1019022025 - Replace CR 1-3 Backstop Fencing			(\$87,000)		
Parks	1019022026 - Tani Field Bleachers				(\$300,000)	
Parks	1019023002 - Replace 83271 John Deere Trim Mower		(\$18,000)			
Parks	1019023003 - Replace Trailer 84027		(\$15,000)			
Parks	1019023004 - Replace 83283 John Deere Mower		(\$18,000)			
Parks	1019023005 - City Wide Baseline Central Control	(\$610,000)				
Cemetery	1019123001 - Replace 90964 Utility Truck		(\$45,000)			
Cemetery	1019123003 - Replace 90959 1/2 ton pickup		(\$46,000)			
Fort Caspar Museum	1019221000 - HVAC Fort Caspar Museum		(\$20,000)			
Fort Caspar Museum	1019221003 - Roof replacement at fort buildings		(\$91,000)			
Fort Caspar Museum	1019223001 - Fort building log repair and daubin		(\$142,441)			
River Fund	1061022001 - Izaak Walton River Project		(\$1,993,604)			
River Fund	1061025001 - North Casper River Restoration			(\$2,500,000)		

Funding Source	Project Listing	2023	2024	2025	2026	2027
Metropolitan Planning	1160023101 - East Yellowstone Intersection Impro		(\$804,000)			
Metropolitan Planning	1160023102 - Downtown 1-way to 2-Way Conversion		(\$750,000)			
Metropolitan Planning	1160023103 - Casper Area Sidewalk Gap Mitigation		(\$200,000)			
Metropolitan Planning	1160023104 - Bryan Stock Path to Lake McKenzie		(\$119,000)			
Aquatics	2210021001 - CFAC - Spa Improvements		(\$31,000)			
Aquatics	2210023001 - CFAC - Filter Improvements		(\$140,000)			
Municipal Golf Course	2220021002 - Golf Clubhouse Roof Replacement		(\$65,000)			
Municipal Golf Course	2220021003 - Toro Sand Pro 2020 replacement		(\$26,000)			
Municipal Golf Course	2220021006 - JD Pro Gator 2030 (082230) replace		(\$40,000)			
Municipal Golf Course	2220021015 - Cart Path Improvements		(\$30,000)	(\$30,000)	(\$30,000)	
Municipal Golf Course	2220022007 - 2007 John Deere Pro Gator 2030 rpl		(\$40,000)			
Municipal Golf Course	2220022008 - 3 - Toro GM Green mowers replacemen			(\$120,000)		
Municipal Golf Course	2220022009 - 2001 John Deere F1145 Rotary rpl		(\$28,000)			
Municipal Golf Course	2220022012 - Dredge 2 ponds		(\$750,000)			
Municipal Golf Course	2220022020 - Mens and Womens Locker Room			(\$60,000)		
Municipal Golf Course	2220023010 - 4 - John Deere Tx Turf Gator- RPL		(\$40,000)			
Municipal Golf Course	2220023013 - Links 9 irrigation replacement -			(\$1,300,000)		
Municipal Golf Course	2220023022 - 70 - Golf Cart fleet replacement	(\$400,000)				
Municipal Golf Course	2220024014 - New Clubhouse				(\$5,200,000)	
Municipal Golf Course	2220024025 - Golf Parking lot Repave		(\$130,000)			
Ice Arena	2230023001 - Replace Electric Ice Resurface		(\$202,000)			
Recreation Center	2240021002 - Recreation Center Fitness Equipment		(\$64,000)			
Recreation Center	2240022004 - Replace Cabinets and Counters-CRC		(\$30,000)			
Recreation Center	2240023001 - Replace CRC Emergency Batteries			(\$20,000)		
Recreation Center	2240023003 - Tani Field Bathrooms Upgrade		(\$159,250)			
Recreation Center	2240023005 - Athletics Storage building			(\$166,000)		
Recreation Center	2240023009 - Recreational Fitness Area	(\$100,000)				
Recreation Center	2240024001 - CRC ACTIVITY ROOM DIVIDER RPLMT				(\$21,000)	
Hogadon Ski Area	2250022006 - Snow Blower		(\$10,000)			
Ford Wyoming Center	2260021005 - CEC Sound System				(\$733,000)	
Ford Wyoming Center	2260021006 - Asphalt Parking Lots		(\$121,000)	(\$121,000)	(\$121,000)	(\$121,000)

Funding Source	Project Listing	2023	2024	2025	2026	2027
Ford Wyoming Center	2260021007 - Deep Fryer Replacement		(\$45,000)			
Ford Wyoming Center	2260021008 - Cabinet & Counter/Kitchen Cabinets		(\$40,000)			
Ford Wyoming Center	2260021010 - Upper Deck Curtaining				(\$187,000)	
Ford Wyoming Center	2260021012 - 2/3 House Concert Rigging Grid				(\$733,000)	
Ford Wyoming Center	2260021013 - Theatrical Lighting Instruments				(\$240,000)	
Ford Wyoming Center	2260021014 - 3/4 Ton Pickup Replacement		(\$54,000)			
Ford Wyoming Center	2260023005 - Folder Chairs		(\$136,000)			
Fleet Maintenance	2510022003 - Service Center Parking Lot Repair			(\$150,000)		
OTHER FUND RESERVES		(\$691,241)	(\$24,000)	(\$37,000)	(\$36,000)	
Information Systems	1013223002 - Network Switch Repl - HOJ and PSCC	(\$13,000)				
Weed & Pest	1100022001 - Replace Pickup 83251	(\$120,000)				
Weed & Pest	1100023002 - Replace 81059 Slope Mower	(\$69,000)				
Weed & Pest	1100023003 - Replace 83243 Maxey Trailer	(\$18,000)				
Municipal Golf Course	2220021004 - 3 - Toro Greensmaster triplex rpl	(\$88,000)				
Municipal Golf Course	2220021015 - Cart Path Improvements	(\$26,000)				
Municipal Golf Course	2220023021 - Yamaha Utility Vehicle Replace -3				(\$36,000)	
Municipal Golf Course	2220023024 - Greens Roller		(\$20,000)			
Ice Arena	2230023003 - Accessible Walkway Fall Protection	(\$5,000)				
Buildings and Structures	2520022006 - Installation of BACnet system	(\$7,500)				
Animal Control	1017123002 - 3 Metro Trucks	(\$216,267)				
River Fund	1061021001 - First Street Gateway	(\$51,000)				
River Fund	1061022001 - Izaak Walton River Project		(\$1,000)			
River Fund	1061022002 - RIPARIAN-UPLAND VEGETATION	(\$20,000)				
River Fund	1061024001 - Knife River-River Restoration CQA		(\$1,000)			
River Fund	1061024002 - Knife River Phytoremediation		(\$1,000)			
River Fund	1061025001 - North Casper River Restoration			(\$1,000)		
Public Safety Communications	1469 - T1EthernetConversion	(\$57,474)				
Perp Care		(\$30,000)				
Fire EMS Department	1018022001 - St. 2 Sewer Service Replacement	(\$30,000)				

Funding Source	Project Listing	2023	2024	2025	2026	2027
PRIVATE		(\$694,500)	(\$2,942,352)	(\$813,380)		
Parks	1019021007 - Warning Track Replacement	(\$42,000)				
Parks	1019023007 - Rotary Ability Playground	(\$125,000)				
River Fund	1060023001 - Bryan Stock Trail Boatramp	(\$12,000)				
River Fund	1061024002 - Knife River Phytoremediation		(\$48,000)			
Public Transit	1150023004 - Transit Shelters	(\$20,000)				
Recreation Center	2240023004 - Washington Field Bathrooms Upgrade	(\$34,250)				
Recreation Center	2240023006 - Lansing Field Dugout/Wall Paint	(\$24,000)				
Hogadon Ski Area	2250022001 - Snow Farming	(\$18,250)				
Ford Wyoming Center	2260021003 - ADA Ramp from East Parking Lot	(\$60,000)				
Ford Wyoming Center	2260021015 - Volleyball Court Replacement	(\$34,000)				
Ford Wyoming Center	2260022002 - Bypass System Replacement	(\$75,000)				
Ford Wyoming Center	2260023003 - North Corner Remodel	(\$120,000)				
Ford Wyoming Center	2260023004 - FWC Portable LED Directional Signs	(\$60,000)				
River Fund	1061021001 - First Street Gateway	(\$70,000)				
River Fund	1061022001 - Izaak Walton River Project		(\$100,000)			
River Fund	1061024001 - Knife River-River Restoration CQA		(\$2,794,352)			
River Fund	1061025001 - North Casper River Restoration			(\$813,380)		
REFUSE RES		(\$2,321,200)	(\$2,177,448)	(\$1,953,748)	(\$1,860,632)	(\$2,911,600)
Refuse Collection	2050021012 - Street Sweeper Replacement		(\$300,000)	(\$300,000)		(\$624,000)
Refuse Collection	2050021014 - Rear Load Garbage Truck Replacement	(\$265,000)			(\$265,000)	
Refuse Collection	2050022001 - Roll-Off Truck Replacement	(\$255,000)				
Refuse Collection	2050022005 - Recycle Depot Improvements	(\$25,000)	(\$25,000)	(\$25,000)	(\$104,400)	
Refuse Collection	2050022016 - Front Load Garbage Truck Replacemen	(\$700,000)	(\$700,000)	(\$360,000)	(\$360,000)	(\$370,000)
Refuse Collection	2050022017 - Side Load Garbage Truck Replacement	(\$720,000)	(\$730,000)	(\$1,100,002)	(\$776,136)	(\$800,000)
Refuse Collection	2050023001 - Pickup Truck Replacement	(\$55,000)		(\$65,000)	(\$55,000)	
Refuse Collection	2050023002 - Enclose N Wash Bay of Truck Barn	(\$20,000)	(\$200,000)			
Refuse Collection	2050023003 - Construction Container Management	(\$35,000)				(\$35,000)
Refuse Collection	2050023004 - Recycle Truck-Replace Chassis	(\$135,000)				
Refuse Collection	2050023005 - Cloud Based Work Order System				(\$220,000)	(\$20,100)

Funding Source	Project Listing	2023	2024	2025	2026	2027
Refuse Collection	2050023007 - Recycle Depot Improvements		(\$25,000)	(\$25,000)	(\$35,000)	(\$36,400)
Refuse Collection	2050023008 - Tree Farm Maintenance	(\$21,200)	(\$22,448)	(\$23,746)	(\$25,096)	(\$26,100)
Refuse Collection	2050024001 - Car Replacement			(\$55,000)		
Refuse Collection	2050024002 - Container Truck Replacement		(\$175,000)			
Refuse Collection	2050025001 - Recycle Depot Imp/Litter Prevent	(\$90,000)				
Refuse Collection	2050027001 - Truck Barn Expansion at CML Add Sit					(\$1,000,000)
Fleet Maintenance	2510022002 - Fuel Island Canopy				(\$20,000)	
SCHOOLDIST		(\$17,000)				
Ford Wyoming Center	2260021015 - Volleyball Court Replacement	(\$17,000)				
SEWER CUR		(\$650,000)	(\$985,000)	(\$535,000)	(\$535,000)	(\$500,000)
Wastewater Collections	2030023001 - FY23 Oversizing Reimbursment	(\$35,000)				
Wastewater Collections	2030023004 - Pickup Truck Replacement	(\$40,000)				
Wastewater Collections	2030023005 - FY23 Misc Sewer Main Replacement	(\$500,000)				
Wastewater Collections	2030023006 - FY23 Lift Station Pump and Panel Re	(\$30,000)				
Wastewater Collections	2030023007 - Vactor Decant Pump	(\$15,000)				
Wastewater Collections	2030023008 - Sewer Line Assessment Tool	(\$30,000)				
Wastewater Collections	2030024001 - FY24 Oversizing Reimbursement		(\$35,000)			
Wastewater Collections	2030024004 - Vactor Replacement		(\$450,000)			
Wastewater Collections	2030024005 - FY24 Misc Sewer Main Replacement		(\$500,000)			
Wastewater Collections	2030025001 - FY25 Oversizing Reimbursement			(\$35,000)		
Wastewater Collections	2030025004 - FY25 Misc Sewer Main Replacement			(\$500,000)		
Wastewater Collections	2030026001 - FY26 Oversizing				(\$35,000)	
Wastewater Collections	2030026003 - FY26 Sewer Main Replacements				(\$500,000)	
Wastewater Collections	2030027001 - FY27 Misc Sewer Main Replacements					(\$500,000)
STATE		(\$280,000)	(\$3,060,000)			
River Fund	1061024002 - Knife River Phytoremediation		(\$1,000,000)			
River Fund	1060023001 - Bryan Stock Trail Boatramp	(\$30,000)				
River Fund	1061022002 - RIPARIAN-UPLAND VEGETATION	(\$10,000)				
River Fund	1061024002 - Knife River Phytoremediation	(\$60,000)	(\$15,000)			
River Fund	1061024002 - Knife River Phytoremediation	(\$180,000)	(\$45,000)			

Funding Source	Project Listing	2023	2024	2025	2026	2027
River Fund	1061022001 - Izaak Walton River Project		(\$2,000,000)			
WATER CUR		(\$2,033,500)	(\$135,000)	(\$135,000)	(\$135,000)	
Water Distribution	2010021014 - Water Dist Garage - Secondary Bldg	(\$1,300,000)				
Water Distribution	2010023003 - FY23 Over Sizing Reimbursement	(\$50,000)				
Water Distribution	2010023005 - FY23 Paving	(\$175,000)				
Water Distribution	2010023006 - Extended Cab Pickup Replacement	(\$35,000)				
Water Distribution	2010023007 - Backhoe Replacement	(\$200,000)				
Water Distribution	2010023008 - Water Line Utility Locator	(\$7,500)				
Water Distribution	2010023009 - Power Mole Boring Machine	(\$6,000)				
Water Distribution	2010023010 - Water Sample Test Station Replacem	(\$13,000)				
Water Distribution	2010023011 - Fire Hose Replacement	(\$7,000)				
Water Distribution	2010023012 - Meter Service Inventory Shelving	(\$15,000)				
Water Distribution	2010023014 - FY23 Water Line Materials	(\$125,000)				
Water Distribution	2010023015 - FY23 Booster Station Improvements	(\$100,000)				
Water Distribution	2010024003 - FY24 Over Sizing Reimbursement		(\$85,000)			
Water Distribution	2010024004 - FY24 Booster Station Renovations		(\$50,000)			
Water Distribution	2010025003 - FY25 Over Sizing Reimbursement			(\$85,000)		
Water Distribution	2010025004 - FY25 Booster Station Renovations			(\$50,000)		
Water Distribution	2010026003 - FY26 Oversizing				(\$85,000)	
Water Distribution	2010026004 - FY26 Booster Station Upgrades				(\$50,000)	
WTPFUNDRES			(\$500,000)			
River Fund	1061022001 - Izaak Walton River Project		(\$500,000)			
WWTP CUR		(\$2,702,000)	(\$2,925,000)	(\$2,175,000)	(\$125,000)	
Wastewater Treatment Plant	2040021025 - MCC Replacement Project		(\$2,100,000)			
Wastewater Treatment Plant	2040023001 - Bar Nunn #1 Lift Station Generator	(\$90,000)				
Wastewater Treatment Plant	2040023003 - FY23 Equipment Replacements	(\$125,000)				
Wastewater Treatment Plant	2040023005 - FY23 Dewatering Building HVAC Repla	(\$150,000)				
Wastewater Treatment Plant	2040023007 - Concrete Repairs	(\$25,000)				
Wastewater Treatment Plant	2040023008 - Secondary Rehab Phase 2	(\$1,500,000)				

Funding Source	Project Listing	2023	2024	2025	2026	2027
Wastewater Treatment Plant	2040023009 - Roll-off Box Replacement	(\$12,000)				
Wastewater Treatment Plant	2040023010 - Lift Station Communication Upgrade	(\$25,000)				
Wastewater Treatment Plant	2040023011 - Utility Cart Replacement	(\$15,000)				
Wastewater Treatment Plant	2040023012 - DAFT Pressure Tank	(\$40,000)				
Wastewater Treatment Plant	2040023014 - Sludge Conveyor and Auger Replaceme	(\$100,000)				
Wastewater Treatment Plant	2040023015 - AB Blower Control Upgrade	(\$150,000)				
Wastewater Treatment Plant	2040023016 - AB Basin Cleaning and Diffuser Repl	(\$80,000)				
Wastewater Treatment Plant	2040023017 - Skidsteer Replacement	(\$75,000)				
Wastewater Treatment Plant	2040023018 - Dump Truck Purchase	(\$90,000)				
Wastewater Treatment Plant	2040023019 - RWWS Interceptor Improvements	(\$150,000)				
Wastewater Treatment Plant	2040023020 - Transformer Replacement	(\$75,000)				
Wastewater Treatment Plant	2040024002 - FY24 Equipment Replacements		(\$125,000)			
Wastewater Treatment Plant	2040024004 - FY24 Dewatering Building HVAC Repla		(\$150,000)			
Wastewater Treatment Plant	2040024006 - Concrete Repairs		(\$300,000)	(\$300,000)		
Wastewater Treatment Plant	2040025002 - FY25 Equipment Replacements			(\$125,000)		
Wastewater Treatment Plant	2040025004 - FY25 Dewatering Building HVAC Repla			(\$150,000)		
Wastewater Treatment Plant	2040025006 - Secondary Rehab Phase 3			(\$1,600,000)		
Wastewater Treatment Plant	2040026002 - FY26 Equipment Replacements				(\$125,000)	
River Fund	1061024001 - Knife River-River Restoration CQA		(\$250,000)			
_		(\$36,306,576)	(\$56,238,807)	(\$44,355,268)	(\$23,062,744)	(\$44,836,920)

# SECTION 3: FIVE YEAR CAPITAL PLAN

## **Navigation Assistance:**

- 1. Jump backward to Project Detail Section
- 2. Jump backward to Projects by Funding Source
- 3. Proceed to Five Year Capital Plan

## **5 Year Capital Plan - Total Expenditure by Work Group**

Work Group	2023	2024	2025	2026	2027	Total	Page
Animal Control	(\$216,267)					(\$216,267)	1
Aquatics	(\$493,793)	(\$845,000)	(\$25,000)	(\$1,367,000)	(\$14,178,000)	(\$16,908,793)	2
Balefill	(\$1,880,520)	(\$3,179,370)	(\$1,445,520)	(\$2,630,520)	(\$1,280,520)	(\$10,416,450)	3
Buildings and Structures	(\$57,500)	(\$50,000)				(\$107,500)	5
Cemetery	(\$91,000)	(\$91,000)				(\$182,000)	6
City Attorney		(\$10,000)				(\$10,000)	7
City Manager		(\$18,000)				(\$18,000)	8
Code Enforcement	(\$33,000)					(\$33,000)	9
Engineering Division	(\$45,000)					(\$45,000)	10
Fire EMS Department	(\$996,753)	(\$4,465,000)	(\$2,360,800)	(\$2,172,592)	(\$12,195,800)	(\$22,190,945)	11
Fleet Maintenance	(\$155,000)	(\$95,000)	(\$245,000)	(\$150,000)		(\$645,000)	13
Ford Wyoming Center	(\$1,459,000)	(\$396,000)	(\$121,000)	(\$2,014,000)	(\$121,000)	(\$4,111,000)	14
Fort Caspar Museum		(\$852,441)	(\$1,295,000)	(\$1,713,000)		(\$3,860,441)	15
Hogadon Ski Area	(\$120,250)	(\$10,000)				(\$130,250)	16
Ice Arena	(\$47,000)	(\$423,000)	(\$19,050,000)			(\$19,520,000)	17
Information Systems	(\$2,236,000)		(\$215,000)			(\$2,451,000)	18
Metropolitan Planning		(\$1,873,000)				(\$1,873,000)	19
Municipal Golf Course	(\$629,000)	(\$1,169,000)	(\$1,510,000)	(\$5,266,000)		(\$8,574,000)	20
Parks	(\$1,992,172)	(\$1,179,389)	(\$955,820)	(\$932,000)		(\$5,059,381)	21
Police Administration	(\$1,611,517)					(\$1,611,517)	23
Public Safety Communications	(\$57,474)					(\$57,474)	24
Public Transit	(\$940,191)					(\$940,191)	25
Recreation Center	(\$298,250)	(\$3,260,250)	(\$359,000)	(\$32,000)		(\$3,949,500)	26
Refuse Collection	(\$2,321,200)	(\$2,177,448)	(\$1,953,748)	(\$1,840,632)	(\$2,911,600)	(\$11,204,628)	27
River Fund	(\$1,951,000)	(\$10,357,191)	(\$6,314,380)			(\$18,622,571)	28
Streets	(\$10,082,189)	(\$6,952,719)	(\$2,660,000)	(\$650,000)	(\$650,000)	(\$20,994,908)	29
Wastewater Collections	(\$1,150,000)	(\$1,485,000)	(\$1,035,000)	(\$1,535,000)	(\$1,000,000)	(\$6,205,000)	31
Wastewater Treatment Plant	(\$2,702,000)	(\$2,675,000)	(\$2,175,000)	(\$125,000)	(\$10,000,000)	(\$17,677,000)	32
Water Distribution	(\$4,533,500)	(\$14,635,000)	(\$2,635,000)	(\$2,635,000)	(\$2,500,000)	(\$26,938,500)	34
Weed & Pest	(\$207,000)	(\$40,000)				(\$247,000)	36
Total by Year:	(\$36,306,576)	(\$56,238,807)	(\$44,355,268)	(\$23,062,744)	(\$44,836,920)	(\$204,800,316)	

## **5 Year Capital Plan - Project Listing by Work Group**

Project Listing	2023	2024	2025	2026	2027	Total
Animal Control						
1017123002 - 3 Metro Trucks	(\$216,267)					(\$216,267)
	(\$216,267)					(\$216,267)

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Project Listing	2023	2024	2025	2026	2027	Total
Aquatics						
2210021001 - CFAC - Spa Improvements		(\$31,000)				(\$31,000)
2210023001 - CFAC - Filter Improvements		(\$140,000)				(\$140,000)
2210023002 - CFAC - New Leisure Pool Pump	(\$8,000)					(\$8,000)
2210023003 - MK Pool - New Main Pool Pump	(\$7,000)					(\$7,000)
2210023004 - W Pool - New Main Pool Pump	(\$7,000)					(\$7,000)
2210023005 - CFAC/MS - Flooring Project		(\$81,000)				(\$81,000)
2210024001 - CFAC - New Lazy River Pump		(\$9,000)				(\$9,000)
2210024002 - CFAC - New Play Feature Pump		(\$9,000)				(\$9,000)
2210024003 - PV Pool - Gutter Replacement	(\$471,793)					(\$471,793)
2210024004 - PV Pool - New Slide Pump		(\$13,000)				(\$13,000)
2210024005 - PV - Slide Improvements		(\$53,000)				(\$53,000)
2210024007 - MK Pool - Filter Improvements		(\$509,000)				(\$509,000)
2210025003 - MS Pool - New Lazy River Pump			(\$25,000)			(\$25,000)
2210025009 - Water Park at a location TBD					(\$14,012,000)	(\$14,012,000)
2210026003 - MS Pool - New Taller Fence				(\$45,000)		(\$45,000)
2210026004 - CFAC - Sun Deck Improvements				(\$1,322,000)		(\$1,322,000)
2210027001 - MS Pool - Wall Improvements					(\$14,000)	(\$14,000)
2210027002 - CFAC - Wall Improvements					(\$152,000)	(\$152,000)
	(\$493,793)	(\$845,000)	(\$25,000)	(\$1,367,000)	(\$14,178,000)	(\$16,908,793)

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Project Listing	2023	2024	2025	2026	2027	Total
Balefill						
2060021003 - Landfill Fencing	(\$122,520)	(\$122,520)	(\$122,520)	(\$122,520)	(\$122,520)	(\$612,600)
2060022020 - GPS for Landfill Equipment	(\$53,000)	(\$54,000)	(\$55,000)			(\$162,000)
2060022021 - Portable Variable Sign-Replacement	(\$60,000)					(\$60,000)
2060022026 - Wheel Loader Replacement	(\$365,000)	(\$375,000)	(\$385,000)	(\$395,000)		(\$1,520,000)
2060022027 - Excavator		(\$365,000)				(\$365,000)
2060023004 - Bale Haul Trucks	(\$240,000)					(\$240,000)
2060023005 - Road Grader Purchase	(\$300,000)					(\$300,000)
2060023006 - 906 Loader for MRF	(\$45,000)					(\$45,000)
2060023010 - Hazardous Waste Storage Addition			(\$135,000)			(\$135,000)
2060023012 - Landfill Maintenance Bldg Redesign		(\$41,250)		(\$1,200,000)		(\$1,241,250)
2060023013 - Lighting Replacement to LED	(\$20,000)					(\$20,000)
2060023015 - Solid Waste Asphalt Improvements	(\$150,000)	(\$150,000)	(\$150,000)			(\$450,000)
2060023016 - Storm Water Infrastructure Imp.	(\$150,000)	(\$30,000)	(\$30,000)	(\$30,000)	(\$30,000)	(\$270,000)
2060023017 - Scale House Exit Renovation	(\$50,000)					(\$50,000)
2060023018 - WTR & WWTR Svc lines Cmpst Bldg	(\$50,000)					(\$50,000)
2060023019 - Upgrade garage doors	(\$38,000)	(\$38,000)	(\$38,000)	(\$38,000)	(\$38,000)	(\$190,000)
2060023020 - Compact Tractor "Ventrac" Mower	(\$32,000)					(\$32,000)
2060023021 - Water Truck	(\$120,000)					(\$120,000)
2060023022 - Landfill Supervisor Truck	(\$85,000)					(\$85,000)
2060024002 - Replace Power Washer at Baler Bldg		(\$8,600)				(\$8,600)
2060024003 - Landfill Compactor Replacement		(\$420,000)				(\$420,000)
2060024004 - ReUse Bldg next to Compost Equip Bl		(\$450,000)			(\$450,000)	(\$900,000)
2060024005 - Scraper (backup Articulating Haul T		(\$650,000)				(\$650,000)
2060024006 - Compactor		(\$420,000)				(\$420,000)

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Project Listing	2023	2024	2025	2026	2027	Total
2060024008 - Transfer Station Crew Truck		(\$55,000)				(\$55,000)
2060025003 - Water Truck Replacement			(\$165,000)			(\$165,000)
2060025005 - Rolloff Truck			(\$150,000)			(\$150,000)
2060025006 - Side Dump Trailer for 4" wood chips			(\$90,000)			(\$90,000)
2060025008 - Rear Load Litter Truck			(\$95,000)			(\$95,000)
2060025009 - ATV enclosed cab			(\$30,000)			(\$30,000)
2060026003 - Tandem Single Axle Dump Truck				(\$210,000)		(\$210,000)
2060026004 - Articulating Haul Truck				(\$550,000)		(\$550,000)
2060026005 - Crew Truck for Landfill				(\$85,000)		(\$85,000)
2060027001 - Giger Counters for Entrance Scale					(\$100,000)	(\$100,000)
2060027002 - Baler Bldg Supervisor Truck					(\$85,000)	(\$85,000)
2060027003 - Loader					(\$395,000)	(\$395,000)
2060027004 - Baler Bldg Forklift					(\$60,000)	(\$60,000)
	(\$1,880,520)	(\$3,179,370)	(\$1,445,520)	(\$2,630,520)	(\$1,280,520)	(\$10,416,450)

Project Listing	2023	2024	2025	2026	2027	Total
<b>Buildings and Structures</b>						
2520022006 - Installation of BACnet system	(\$7,500)					(\$7,500)
2520023001 - Replace vehicle #084031	(\$50,000)					(\$50,000)
2520023002 - Replace vehicle #084034		(\$50,000)				(\$50,000)
	(\$57,500)	(\$50,000)				(\$107,500)

Project Listing	2023	2024	2025	2026	2027	Total
Cemetery						
1019122002 - Cemetery Mower - Unit 90965	(\$52,000)					(\$52,000)
1019123001 - Replace 90964 Utility Truck		(\$45,000)				(\$45,000)
1019123002 - Replace UTV/Sprayer 83293	(\$39,000)					(\$39,000)
1019123003 - Replace 90959 1/2 ton pickup		(\$46,000)				(\$46,000)
	(\$91,000)	(\$91,000)				(\$182,000)

Project Listing	2023	2024	2025	2026	2027	Total
City Attorney						
1010024001 - Photocopier for Attorney's Office		(\$10,000)				(\$10,000)
		(\$10,000)				(\$10,000)

Project Listing	2023	2024	2025	2026	2027	Total
City Manager						
1011124001 - City Manager's Office Photocopier		(\$18,000)				(\$18,000)
		(\$18,000)				(\$18,000)

Project Listing	2023	2024	2025	2026	2027	Total
Code Enforcement						
1016123001 - CODE ENFRC FLEET VEHICLE	(\$33,000)					(\$33,000)
	(\$33,000)					(\$33,000)

Project Listing	2023	2024	2025	2026	2027	Total
Engineering Division						
1015123011 - 2022 Standard Specifications Update	(\$45,000)					(\$45,000)
	(\$45,000)					(\$45,000)

Project Listing	2023	2024	2025	2026	2027	Total
Fire EMS Department						
1018021006 - 50 Replacement Portable Radios	(\$260,753)					(\$260,753)
1018021007 - Station 1 Breathing Air Compressor	(\$85,500)					(\$85,500)
1018021013 - Utility Terrain Vehicle (UTV)	(\$30,000)					(\$30,000)
1018021014 - Alternative Response Vehicle (ARV)		(\$320,000)				(\$320,000)
1018022001 - St. 2 Sewer Service Replacement	(\$30,000)					(\$30,000)
1018022002 - Brush 6 Replacement	(\$200,000)					(\$200,000)
1018022003 - Replacement Extrication Equipment		(\$150,000)				(\$150,000)
1018022006 - E1 Replacement			(\$750,000)			(\$750,000)
1018022007 - Fire Station 1 Replacement					(\$12,000,000)	(\$12,000,000)
1018022008 - Truck 1 Replacement				(\$1,500,000)		(\$1,500,000)
1018022009 - Rescue 1 Replacement				(\$600,000)		(\$600,000)
1018022013 - Regional Fire Training Update		(\$3,000,000)				(\$3,000,000)
1018022014 - DJI Matrice 300 Drone Thermal			(\$40,000)			(\$40,000)
1018022015 - Replacement Rescue Platform Raft		(\$6,000)				(\$6,000)
1018022016 - 6 Motorola APX All Band Consollette				(\$51,792)		(\$51,792)
1018022017 - Red Boat Motor: Merc Jet 40 HP		(\$8,000)				(\$8,000)
1018022018 - 25 Motorola APX8000XE Port. Radios		(\$135,000)				(\$135,000)
1018022019 - 6 New Cardiac Monitors			(\$300,000)			(\$300,000)
1018023001 - Engine 5 Quint Replacement			(\$1,250,000)			(\$1,250,000)
1018023004 - Annual Turnout Gear Replacements	(\$19,000)					(\$19,000)
1018023005 - FY24 Annual Turnout Gear Replace		(\$19,000)				(\$19,000)
1018023007 - FY26 Turnout Gear Replacement				(\$20,800)		(\$20,800)
1018023008 - FY27 Bunker Gear Replacement					(\$20,800)	(\$20,800)
1018023009 - Station 6 Extractor and Gear Dryer	(\$22,000)					(\$22,000)

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Project Listing	2023	2024	2025	2026	2027	Total
1018023010 - Station 5 Extractor and Gear Dryer		(\$22,000)				(\$22,000)
1018023011 - Fire Station 1 Rehab	(\$75,000)					(\$75,000)
1018023012 - New 44" Plotter Scanner		(\$7,000)				(\$7,000)
1018023013 - Digital Touchscreen Plan Table		(\$15,000)				(\$15,000)
1018023014 - Drill Tower Concrete Ex Pad	(\$75,000)					(\$75,000)
1018023015 - 3 Replacement Support Vehicles	(\$199,500)					(\$199,500)
1018023016 - Replacement Support Vehicle		(\$72,500)				(\$72,500)
1018023017 - Replacement Support Vehicles					(\$175,000)	(\$175,000)
1018023018 - Station 2 Covered Patio		(\$150,000)				(\$150,000)
1018023019 - Station 3 Air Compressor		(\$85,500)				(\$85,500)
1018023026 - Replace Brush 5		(\$400,000)				(\$400,000)
1018023027 - Westnet Dispatch Software and Work		(\$75,000)				(\$75,000)
1018023306 - FY25 Bunker Gear Replacement			(\$20,800)			(\$20,800)
	(\$996,753)	(\$4,465,000)	(\$2,360,800)	(\$2,172,592)	(\$12,195,800)	(\$22,190,945)

Project Listing	2023	2024	2025	2026	2027	Total
Fleet Maintenance						
2510022002 - Fuel Island Canopy				(\$75,000)		(\$75,000)
2510022003 - Service Center Parking Lot Repair			(\$150,000)			(\$150,000)
2510023001 - Tire Bay Lift Repair	(\$80,000)					(\$80,000)
2510023002 - Portable Lifts Replacement	(\$75,000)	(\$95,000)	(\$95,000)	(\$75,000)		(\$340,000)
	(\$155,000)	(\$95,000)	(\$245,000)	(\$150,000)		(\$645,000)

Project Listing	2023	2024	2025	2026	2027	Total
Ford Wyoming Center						
2260021001 - South Walkway Replacement	(\$736,000)					(\$736,000)
2260021003 - ADA Ramp from East Parking Lot	(\$60,000)					(\$60,000)
2260021005 - CEC Sound System				(\$733,000)		(\$733,000)
2260021006 - Asphalt Parking Lots		(\$121,000)	(\$121,000)	(\$121,000)	(\$121,000)	(\$484,000)
2260021007 - Deep Fryer Replacement		(\$45,000)				(\$45,000)
2260021008 - Cabinet & Counter/Kitchen Cabinets		(\$40,000)				(\$40,000)
2260021009 - Kitchen Convection Oven Replacement	(\$113,000)					(\$113,000)
2260021010 - Upper Deck Curtaining				(\$187,000)		(\$187,000)
2260021012 - 2/3 House Concert Rigging Grid				(\$733,000)		(\$733,000)
2260021013 - Theatrical Lighting Instruments				(\$240,000)		(\$240,000)
2260021014 - 3/4 Ton Pickup Replacement		(\$54,000)				(\$54,000)
2260021015 - Volleyball Court Replacement	(\$100,000)					(\$100,000)
2260021016 - Concession Ice Machines	(\$31,000)					(\$31,000)
2260022002 - Bypass System Replacement	(\$75,000)					(\$75,000)
2260023001 - FWC New Boiler Exhaust Venting	(\$128,000)					(\$128,000)
2260023002 - FWC Box Office ADA Windows Repl	(\$36,000)					(\$36,000)
2260023003 - North Corner Remodel	(\$120,000)					(\$120,000)
2260023004 - FWC Portable LED Directional Signs	(\$60,000)					(\$60,000)
2260023005 - Folder Chairs		(\$136,000)				(\$136,000)
	(\$1,459,000)	(\$396,000)	(\$121,000)	(\$2,014,000)	(\$121,000)	(\$4,111,000)

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Project Listing	2023	2024	2025	2026	2027	Total
Fort Caspar Museum						
1019221000 - HVAC Fort Caspar Museum replacement		(\$20,000)				(\$20,000)
1019221003 - Roof replacement at fort buildings		(\$91,000)				(\$91,000)
1019223001 - Fort building log repair and daubing		(\$142,441)				(\$142,441)
1019224001 - Fort building log repair and daubing		(\$599,000)				(\$599,000)
1019225001 - Fort building log repair and daubing			(\$1,295,000)			(\$1,295,000)
1019226001 - Fort building log repair and daubing				(\$1,713,000)		(\$1,713,000)
		(\$852,441)	(\$1,295,000)	(\$1,713,000)		(\$3,860,441)

Project Listing	2023	2024	2025	2026	2027	Total
Hogadon Ski Area						
2250022001 - Snow Farming	(\$18,250)					(\$18,250)
2250022003 - Utility Terrain Vehicles	(\$38,000)					(\$38,000)
2250022006 - Snow Blower		(\$10,000)				(\$10,000)
2250023001 - Replace Tracked ATV	(\$42,000)					(\$42,000)
2250023002 - Stain Wooden Beams	(\$22,000)					(\$22,000)
	(\$120,250)	(\$10,000)				(\$130,250)

Project Listing	2023	2024	2025	2026	2027	Total
Ice Arena						
2230021001 - CIA CONCESSION OVEN REPLACEMENT	(\$16,000)					(\$16,000)
2230023001 - Replace Electric Ice Resurfacer		(\$202,000)				(\$202,000)
2230023003 - Accessible Walkway Fall Protection	(\$31,000)					(\$31,000)
2230024001 - Joist Painting		(\$153,000)				(\$153,000)
2230024002 - Floor Scrubber for Ice Arena		(\$9,000)				(\$9,000)
2230024003 - Refrigeration Compresso Maintenance		(\$20,000)				(\$20,000)
2230024004 - Replace Speakers and Sound System		(\$39,000)				(\$39,000)
2230025001 - Ice Arena Expansion with 2nd ice sh			(\$18,986,000)			(\$18,986,000)
2230025002 - Replace Dehumidifiers Ice Arena			(\$20,000)			(\$20,000)
2230025003 - Parking Lot Light Poles			(\$44,000)			(\$44,000)
	(\$47,000)	(\$423,000)	(\$19,050,000)			(\$19,520,000)

Project Listing	2023	2024	2025	2026	2027	Total
Information Systems						
1013223002 - Network Switch Repl - HOJ and PSCC	(\$26,000)		(\$15,000)			(\$41,000)
1013223003 - Server Upgrades FY23	(\$165,000)		(\$200,000)			(\$365,000)
1013223004 - City Website Redesign	(\$45,000)					(\$45,000)
1013223005 - Fiber Network Phase II	(\$2,000,000)					(\$2,000,000)
	(\$2,236,000)		(\$215,000)			(\$2,451,000)

Project Listing	2023	2024	2025	2026	2027	Total
Metropolitan Planning						
1160023101 - East Yellowstone Intersection Impro		(\$804,000)				(\$804,000)
1160023102 - Downtown 1-way to 2-Way Conversion		(\$750,000)				(\$750,000)
1160023103 - Casper Area Sidewalk Gap Mitigation		(\$200,000)				(\$200,000)
1160023104 - Bryan Stock Path to Lake McKenzie		(\$119,000)				(\$119,000)
		(\$1,873,000)				(\$1,873,000)

Project Listing	2023	2024	2025	2026	2027	Total
Municipal Golf Course						
2220021002 - Golf Clubhouse Roof Replacement		(\$65,000)				(\$65,000)
2220021003 - Toro Sand Pro 2020 replacement		(\$26,000)				(\$26,000)
2220021004 - 3 - Toro Greensmaster triplex rpl	(\$168,000)					(\$168,000)
2220021006 - JD Pro Gator 2030 (082230) replace		(\$40,000)				(\$40,000)
2220021015 - Cart Path Improvements	(\$26,000)	(\$30,000)	(\$30,000)	(\$30,000)		(\$116,000)
2220022007 - 2007 John Deere Pro Gator 2030 rpl		(\$40,000)				(\$40,000)
2220022008 - 3 - Toro GM Green mowers replacemen			(\$120,000)			(\$120,000)
2220022009 - 2001 John Deere F1145 Rotary rpl		(\$28,000)				(\$28,000)
2220022012 - Dredge 2 ponds		(\$750,000)				(\$750,000)
2220022018 - Driving range ball dispenser	(\$35,000)					(\$35,000)
2220022020 - Mens and Womens Locker Room Update			(\$60,000)			(\$60,000)
2220023010 - 4 - John Deere Tx Turf Gator- RPL		(\$40,000)				(\$40,000)
2220023013 - Links 9 irrigation replacement -			(\$1,300,000)			(\$1,300,000)
2220023021 - Yamaha Utility Vehicle Replace -3				(\$36,000)		(\$36,000)
2220023022 - 70 - Golf Cart fleet replacement	(\$400,000)					(\$400,000)
2220023024 - Greens Roller		(\$20,000)				(\$20,000)
2220024014 - New Clubhouse				(\$5,200,000)		(\$5,200,000)
2220024025 - Golf Parking lot Repave		(\$130,000)				(\$130,000)
	(\$629,000)	(\$1,169,000)	(\$1,510,000)	(\$5,266,000)		(\$8,574,000)

Project Listing	2023	2024	2025	2026	2027	Total
Parks						
1019021002 - Crossroads Softball Field Lighting			(\$483,000)			(\$483,000)
1019021003 - Washington Field Lights Replacement	(\$346,000)					(\$346,000)
1019021005 - Tani Field Lights		(\$407,000)				(\$407,000)
1019021006 - Washington Fence Replacement		(\$47,000)				(\$47,000)
1019021007 - Warning Track Replacement	(\$42,000)					(\$42,000)
1019021008 - Crossroads 4 Lights				(\$407,000)		(\$407,000)
1019021009 - Field Of Dreams Field Renovation		(\$70,000)				(\$70,000)
1019021010 - Material Storage			(\$31,820)			(\$31,820)
1019021012 - Athletic Field Sprayer		(\$55,000)				(\$55,000)
1019021014 - ABI Force Infield Machine			(\$41,000)			(\$41,000)
1019021017 - Playground and Fall Material Repl	(\$62,500)	(\$125,000)	(\$125,000)	(\$125,000)		(\$437,500)
1019021018 - Miscellaneous Park Improvements	(\$37,500)	(\$100,000)	(\$100,000)	(\$100,000)		(\$337,500)
1019021019 - Mike Sedar Fence Replacement			(\$47,000)			(\$47,000)
1019021021 - Crossrosds SB Infield Renovation		(\$70,000)				(\$70,000)
1019021023 - Aerator for Athletics			(\$41,000)			(\$41,000)
1019021025 - Parks Irrigation Misc Improvements	(\$300,000)					(\$300,000)
1019022008 - Replace John Deere 1600 mower	(\$79,000)					(\$79,000)
1019022009 - Resurface Washington Tennis	(\$50,000)					(\$50,000)
1019022010 - Replace Parks Backhoe	(\$139,000)					(\$139,000)
1019022020 - Field of Dreams Backstop		(\$82,000)				(\$82,000)
1019022024 - Replace Tani Field Score board		(\$29,000)				(\$29,000)
1019022025 - Replace CR 1-3 Backstop Fencing			(\$87,000)			(\$87,000)
1019022026 - Tani Field Bleachers				(\$300,000)		(\$300,000)
1019023001 - Replace Toro Zero Turn mower	(\$44,000)					(\$44,000)

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Project Listing	2023	2024	2025	2026	2027	Total
1019023002 - Replace 83271 John Deere Trim Mower		(\$18,000)				(\$18,000)
1019023003 - Replace Trailer 84027		(\$15,000)				(\$15,000)
1019023004 - Replace 83283 John Deere Mower		(\$18,000)				(\$18,000)
1019023005 - City Wide Baseline Central Control	(\$610,000)					(\$610,000)
1019023006 - PRTT FY23 Trail Maintenance	(\$157,172)	(\$143,389)				(\$300,561)
1019023007 - Rotary Ability Playground	(\$125,000)					(\$125,000)
	(\$1,992,172)	(\$1,179,389)	(\$955,820)	(\$932,000)		(\$5,059,381)

Project Listing	2023	2024	2025	2026	2027	Total
Police Administration						
1017023011 - 18 Marked Units	(\$1,451,789)					(\$1,451,789)
1017023012 - 4 Unmarked Units	(\$159,728)					(\$159,728)
	(\$1,611,517)					(\$1,611,517)

Project Listing	2023	2024	2025	2026	2027	Total
<b>Public Safety Communications</b>						
1469 - T1EthernetConversion	(\$57,474)					(\$57,474)
	(\$57,474)					(\$57,474)

Project Listing	2023	2024	2025	2026	2027	Total
Public Transit						
1150023001 - ASSIST and LINK BUS	(\$360,000)					(\$360,000)
1150023002 - Transit Employee Parking Lot	(\$231,683)					(\$231,683)
1150023003 - Transit Security Fence and Lighting	(\$308,508)					(\$308,508)
1150023004 - Transit Shelters	(\$40,000)					(\$40,000)
	(\$940,191)					(\$940,191)

Project Listing	2023	2024	2025	2026	2027	Total
Recreation Center						
2240021002 - Recreation Center Fitness Equipment		(\$64,000)				(\$64,000)
2240021003 - CRC Ceiling Tiles				(\$11,000)		(\$11,000)
2240022001 - CRC Replacement Equipment			(\$60,000)			(\$60,000)
2240022004 - Replace Cabinets and Counters-CRC		(\$30,000)				(\$30,000)
2240023001 - Replace CRC Emergency Batteries			(\$20,000)			(\$20,000)
2240023002 - Replace CRC Commercial Dryer & Wash	(\$15,000)					(\$15,000)
2240023003 - Tani Field Bathrooms Upgrade		(\$159,250)				(\$159,250)
2240023004 - Washington Field Bathrooms Upgrade	(\$159,250)					(\$159,250)
2240023005 - Athletics Storage building			(\$166,000)			(\$166,000)
2240023006 - Lansing Field Dugout/Wall Paint	(\$24,000)					(\$24,000)
2240023007 - Recreation Center Entry Improvement		(\$1,452,000)				(\$1,452,000)
2240023009 - Recreational Fitness Area	(\$100,000)					(\$100,000)
2240024001 - CRC ACTIVITY ROOM DIVIDER RPLMT				(\$21,000)		(\$21,000)
2240024003 - Locker Room Update		(\$1,300,000)				(\$1,300,000)
2240024004 - Concessions CRC		(\$255,000)				(\$255,000)
2240025001 - BUILDING SIGNAGE			(\$50,000)			(\$50,000)
2240025002 - STEAM ROOM			(\$19,000)			(\$19,000)
2240025003 - CRC Parking Lot Lighting			(\$44,000)			(\$44,000)
	(\$298,250)	(\$3,260,250)	(\$359,000)	(\$32,000)		(\$3,949,500)

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Project Listing	2023	2024	2025	2026	2027	Total
Refuse Collection						
2050021012 - Street Sweeper Replacement		(\$300,000)	(\$300,000)		(\$624,000)	(\$1,224,000)
2050021014 - Rear Load Garbage Truck Replacement	(\$265,000)			(\$265,000)		(\$530,000)
2050022001 - Roll-Off Truck Replacement	(\$255,000)					(\$255,000)
2050022005 - Recycle Depot Improvements	(\$25,000)	(\$25,000)	(\$25,000)	(\$104,400)		(\$179,400)
2050022016 - Front Load Garbage Truck Replacemen	(\$700,000)	(\$700,000)	(\$360,000)	(\$360,000)	(\$370,000)	(\$2,490,000)
2050022017 - Side Load Garbage Truck Replacement	(\$720,000)	(\$730,000)	(\$1,100,002)	(\$776,136)	(\$800,000)	(\$4,126,138)
2050023001 - Pickup Truck Replacement	(\$55,000)		(\$65,000)	(\$55,000)		(\$175,000)
2050023002 - Enclose N Wash Bay of Truck Barn	(\$20,000)	(\$200,000)				(\$220,000)
2050023003 - Construction Container Management	(\$35,000)				(\$35,000)	(\$70,000)
2050023004 - Recycle Truck-Replace Chassis	(\$135,000)					(\$135,000)
2050023005 - Cloud Based Work Order System				(\$220,000)	(\$20,100)	(\$240,100)
2050023007 - Recycle Depot Improvements		(\$25,000)	(\$25,000)	(\$35,000)	(\$36,400)	(\$121,400)
2050023008 - Tree Farm Maintenance	(\$21,200)	(\$22,448)	(\$23,746)	(\$25,096)	(\$26,100)	(\$118,590)
2050024001 - Car Replacement			(\$55,000)			(\$55,000)
2050024002 - Container Truck Replacement		(\$175,000)				(\$175,000)
2050025001 - Recycle Depot Imp/Litter Prevent	(\$90,000)					(\$90,000)
2050027001 - Truck Barn Expansion at CML Add Sit					(\$1,000,000)	(\$1,000,000)
	(\$2,321,200)	(\$2,177,448)	(\$1,953,748)	(\$1,840,632)	(\$2,911,600)	(\$11,204,628)

Project Listing	2023	2024	2025	2026	2027	Total
River Fund						
1060023001 - Bryan Stock Trail Boatramp	(\$60,000)					(\$60,000)
1061021001 - First Street Gateway	(\$1,621,000)					(\$1,621,000)
1061022001 - Izaak Walton River Project		(\$4,839,604)				(\$4,839,604)
1061022002 - RIPARIAN-UPLAND VEGETATION	(\$30,000)					(\$30,000)
1061024001 - Knife River-River Restoration CQA		(\$3,270,587)				(\$3,270,587)
1061024002 - Knife River Phytoremediation	(\$240,000)	(\$2,247,000)				(\$2,487,000)
1061025001 - North Casper River Restoration			(\$6,314,380)			(\$6,314,380)
	(\$1,951,000)	(\$10,357,191)	(\$6,314,380)			(\$18,622,571)

Project Listing	2023	2024	2025	2026	2027	Total
Streets						
1015022005 - Mariposa Blvd-Ridgecrest to Brkview	(\$590,000)					(\$590,000)
1015023013 - Bryan Stock Trl Cape Seal	(\$175,000)					(\$175,000)
1015023014 - Missouri Avenue – 15th to 21st		(\$318,119)				(\$318,119)
1015023015 - Coffman Ave from Essex to 25th Stre	(\$1,146,000)					(\$1,146,000)
1015023016 - Westridge Improvements	(\$1,040,000)					(\$1,040,000)
1015121009 - 70961 One Ton Flat Bed Pick-up		(\$60,000)				(\$60,000)
1015121010 - 70952 Steel Wheel Roller		(\$120,000)				(\$120,000)
1015121012 - Unit 151569 One Ton 4x4 Flat Bed		(\$60,000)				(\$60,000)
1015121020 - Streets Unit 70931 Road Planer					(\$650,000)	(\$650,000)
1015121022 - Truck Barn		(\$6,000,000)				(\$6,000,000)
1015121023 - Equipment Material Storage Building			(\$2,000,000)			(\$2,000,000)
1015121114 - 70994 1/2 Ton 4x4 Ext Cab Short Box		(\$60,000)				(\$60,000)
1015121117 - 70720 Crafco Melter			(\$90,000)			(\$90,000)
1015121118 - Streets Unit 70723 Bobcat Skidsteer			(\$85,000)			(\$85,000)
1015121119 - Streets Unit 70725 Bobcat			(\$85,000)			(\$85,000)
1015121214 - Midwest - Walnut to Poplar	(\$2,210,189)					(\$2,210,189)
1015123001 - 70981 Tandem Axle Plow/Sander	(\$235,000)					(\$235,000)
1015123002 - 70986 Tandem Axle Plow/Sander	(\$235,000)					(\$235,000)
1015123003 - 70973 Snow Blower	(\$250,000)					(\$250,000)
1015123004 - Traffic Sign Plotter	(\$9,000)					(\$9,000)
1015123006 - East 21st Street Improvements	(\$401,000)					(\$401,000)
1015123008 - College Drive Improvements	(\$376,000)					(\$376,000)
1015123009 - East 2nd Street Cape Seal - Hat Six	(\$805,000)					(\$805,000)
1015123016 - Oak Street Improvements -CY to 14th	(\$900,000)					(\$900,000)

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Project Listing	2023	2024	2025	2026	2027	Total
1015123017 - E Street Extension	(\$200,000)					(\$200,000)
1015123222 - Center St Decorative Light Upgrade	(\$50,000)					(\$50,000)
1015124001 - 70992 Tandem Axle Plow/Sander		(\$250,000)				(\$250,000)
1015124002 - Graco Buggy's		(\$16,000)				(\$16,000)
1015124003 - 2 Graco Sprayers		(\$18,600)				(\$18,600)
1015124004 - 60666 Half Ton 4x4 Pick-up		(\$50,000)				(\$50,000)
1015125002 - 70718 Tandem Axle Plow/Sander			(\$250,000)			(\$250,000)
1015125003 - Material Stacker for Ice Shed			(\$150,000)			(\$150,000)
1015126001 - 2 Front End Loaders				(\$650,000)		(\$650,000)
1015223001 - Misc Traffic Equipment	(\$100,000)					(\$100,000)
101523017 - 12th St Cape Seal	(\$450,000)					(\$450,000)
1401 - Wolf Creek Road Improvements	(\$910,000)					(\$910,000)
	(\$10,082,189)	(\$6,952,719)	(\$2,660,000)	(\$650,000)	(\$650,000)	(\$20,994,908)

Project Listing	2023	2024	2025	2026	2027	Total
<b>Wastewater Collections</b>						
2030023001 - FY23 Oversizing Reimbursment	(\$35,000)					(\$35,000)
2030023004 - Pickup Truck Replacement	(\$40,000)					(\$40,000)
2030023005 - FY23 Misc Sewer Main Replacement	(\$1,000,000)					(\$1,000,000)
2030023006 - FY23 Lift Station Pump and Panel Re	(\$30,000)					(\$30,000)
2030023007 - Vactor Decant Pump	(\$15,000)					(\$15,000)
2030023008 - Sewer Line Assessment Tool	(\$30,000)					(\$30,000)
2030024001 - FY24 Oversizing Reimbursement		(\$35,000)				(\$35,000)
2030024004 - Vactor Replacement		(\$450,000)				(\$450,000)
2030024005 - FY24 Misc Sewer Main Replacement		(\$1,000,000)				(\$1,000,000)
2030025001 - FY25 Oversizing Reimbursement			(\$35,000)			(\$35,000)
2030025004 - FY25 Misc Sewer Main Replacement			(\$1,000,000)			(\$1,000,000)
2030026001 - FY26 Oversizing				(\$35,000)		(\$35,000)
2030026003 - FY26 Sewer Main Replacements				(\$1,500,000)		(\$1,500,000)
2030027001 - FY27 Misc Sewer Main Replacements					(\$1,000,000)	(\$1,000,000)
	(\$1,150,000)	(\$1,485,000)	(\$1,035,000)	(\$1,535,000)	(\$1,000,000)	(\$6,205,000)

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Project Listing	2023	2024	2025	2026	2027	Total
Wastewater Treatment Plant						
2040021025 - MCC Replacement Project		(\$2,100,000)				(\$2,100,000)
2040023001 - Bar Nunn #1 Lift Station Generator	(\$90,000)					(\$90,000)
2040023003 - FY23 Equipment Replacements	(\$125,000)					(\$125,000)
2040023005 - FY23 Dewatering Building HVAC Repla	(\$150,000)					(\$150,000)
2040023007 - Concrete Repairs	(\$25,000)					(\$25,000)
2040023008 - Secondary Rehab Phase 2	(\$1,500,000)					(\$1,500,000)
2040023009 - Roll-off Box Replacement	(\$12,000)					(\$12,000)
2040023010 - Lift Station Communication Upgrade	(\$25,000)					(\$25,000)
2040023011 - Utility Cart Replacement	(\$15,000)					(\$15,000)
2040023012 - DAFT Pressure Tank	(\$40,000)					(\$40,000)
2040023014 - Sludge Conveyor and Auger Replaceme	(\$100,000)					(\$100,000)
2040023015 - AB Blower Control Upgrade	(\$150,000)					(\$150,000)
2040023016 - AB Basin Cleaning and Diffuser Repl	(\$80,000)					(\$80,000)
2040023017 - Skidsteer Replacement	(\$75,000)					(\$75,000)
2040023018 - Dump Truck Purchase	(\$90,000)					(\$90,000)
2040023019 - RWWS Interceptor Improvements	(\$150,000)					(\$150,000)
2040023020 - Transformer Replacement	(\$75,000)					(\$75,000)
2040024002 - FY24 Equipment Replacements		(\$125,000)				(\$125,000)
2040024004 - FY24 Dewatering Building HVAC Repla		(\$150,000)				(\$150,000)
2040024006 - Concrete Repairs		(\$300,000)	(\$300,000)			(\$600,000)
2040025002 - FY25 Equipment Replacements			(\$125,000)			(\$125,000)
2040025004 - FY25 Dewatering Building HVAC Repla			(\$150,000)			(\$150,000)
2040025006 - Secondary Rehab Phase 3			(\$1,600,000)			(\$1,600,000)
2040026002 - FY26 Equipment Replacements				(\$125,000)		(\$125,000)

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Project Listing	2023	2024	2025	2026	2027	Total
2040027001 - NPSS Rehabilitation Phase 2					(\$10,000,000)	(\$10,000,000)
	(\$2,702,000)	(\$2.675.000)	(\$2,175,000)	(\$125.000)	(\$10,000,000)	(\$17.677.000)

Project Listing	2023	2024	2025	2026	2027	Total
Water Distribution						
2010021014 - Water Dist Garage - Secondary Bldg	(\$1,300,000)					(\$1,300,000)
2010023001 - FY23 Misc Water Main Replacements	(\$2,500,000)					(\$2,500,000)
2010023003 - FY23 Over Sizing Reimbursement	(\$50,000)					(\$50,000)
2010023005 - FY23 Paving	(\$175,000)					(\$175,000)
2010023006 - Extended Cab Pickup Replacement	(\$35,000)					(\$35,000)
2010023007 - Backhoe Replacement	(\$200,000)					(\$200,000)
2010023008 - Water Line Utility Locator	(\$7,500)					(\$7,500)
2010023009 - Power Mole Boring Machine	(\$6,000)					(\$6,000)
2010023010 - Water Sample Test Station Replacem	(\$13,000)					(\$13,000)
2010023011 - Fire Hose Replacement	(\$7,000)					(\$7,000)
2010023012 - Meter Service Inventory Shelving	(\$15,000)					(\$15,000)
2010023014 - FY23 Water Line Materials	(\$125,000)					(\$125,000)
2010023015 - FY23 Booster Station Improvements	(\$100,000)					(\$100,000)
2010024001 - FY24 Misc Water Main Replacements		(\$2,500,000)				(\$2,500,000)
2010024003 - FY24 Over Sizing Reimbursement		(\$85,000)				(\$85,000)
2010024004 - FY24 Booster Station Renovations		(\$50,000)				(\$50,000)
2010024005 - 10 MG Reservoir Replacement		(\$12,000,000)				(\$12,000,000)
2010025001 - FY25 Misc Water Main Replacements			(\$2,500,000)			(\$2,500,000)
2010025003 - FY25 Over Sizing Reimbursement			(\$85,000)			(\$85,000)
2010025004 - FY25 Booster Station Renovations			(\$50,000)			(\$50,000)
2010026001 - FY26 Misc Water Main Replacements				(\$2,500,000)		(\$2,500,000)
2010026003 - FY26 Oversizing				(\$85,000)		(\$85,000)
2010026004 - FY26 Booster Station Upgrades				(\$50,000)		(\$50,000)

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Project Listing	2023	2024	2025	2026	2027	Total
2010027001 - FY27 Misc Water Main Replacements					(\$2,500,000)	(\$2,500,000)
	(\$4.533.500) (\$	\$14.635.000)	(\$2.635.000)	(\$2.635.000)	(\$2.500.000)	(\$26.938.500)

Project Listing	2023	2024	2025	2026	2027	Total
Weed & Pest						
1100022001 - Replace Pickup 83251	(\$120,000)					(\$120,000)
1100023001 - Replace 81051 2WD Pickup		(\$40,000)				(\$40,000)
1100023002 - Replace 81059 Slope Mower	(\$69,000)					(\$69,000)
1100023003 - Replace 83243 Maxey Trailer	(\$18,000)					(\$18,000)
	(\$207,000)	(\$40,000)				(\$247,000)

**Citywide Total:** 

(\$36,306,576) (\$56,238,807) (\$44,355,268) (\$23,062,744) (\$44,836,920) (\$204,800,316)

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## **END OF CAPITAL REPORT**

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- 1. Return to Project Detail Section
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- 3. Return to Five Year Capital Plan