

CITY OF MADISON

REQUEST FOR PROPOSALS



RFP #: 8618-0-2017-BP

Title: Sustainability Consulting Services

City Agency: Engineering

Due Date: Friday, May 5, 2017
2:00 PM CST

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1 NOTICE TO PROPOSERS

1.1 Summary

The City of Madison Engineering ("City") is soliciting Proposals from qualified vendors for Sustainability Consulting Services. Vendors submitting Proposals ("Proposers") are required to read this Request for Proposals ("RFP") in its entirety and follow the instructions contained herein.

1.2 Important Dates

Deliver Proposals no later than the due time and date indicated below. The City will reject late Proposals:

Issue Date: Friday, April 7, 2017
Questions Due Date: Wednesday, April 19, 2017
Answers Posted Date: Friday April 21, 2017
Due Date: Friday, May 5, 2017, 2:00 PM CST

1.3 Format

Submit Technical and Cost Proposals (Form D) in separate, distinct parts within the proposal package.

Hardcopy proposals typed and securely bound on 8.5 by 11-inch paper, otherwise identical to the electronic version.

Electronic proposal in a PDF format stored on a common media (CD, DVD, or flash drive), identical in content and sequence to hardcopy proposals submitted.

Cost Proposal (Form D): One Copy
Technical Proposal: Four Copies
Electronic Proposal: One (1) complete copy. Cost and Technical Proposals should be separate files.

The City will not consider illegible Proposals.

Elaborate proposals (i.e., expensive artwork) beyond that sufficient to present a complete and effective proposal, are not necessary or desired.

Complete and return Forms A through E to City of Madison Purchasing Services by Friday, May 5, 2017, 2:00 PM CST.

1.4 Labeling

All proposals must be clearly labeled:

Proposer's Name and Address
RFP #: 8618-0-2017-BP
Title: Sustainability Consulting Services
Due: Friday, May 5, 2017, 2:00 PM CST

All email correspondence must include RFP #8618-0-2017-BP in the subject line.

1.5 Delivery of Proposals

Delivery of hard copies to: City of Madison Purchasing Services
City County Building, Room 407
210 Martin Luther King Jr. Blvd.
Madison, WI 53703

Delivery of electronic copy to: via email to bids@cityofmadison.com
or on a commonly used media with the hard copies.

Proposals must be delivered as instructed. Deliveries to other City departments and/or locations may result in disqualification.

Note: When mailing your response via a third party delivery service, the outside of the packaging MUST be clearly marked with the RFP name and number. This ensures that the bid can be delivered to the correct purchasing agent without having to open the bid.

1.6 Appendix A: Standard Terms & Conditions

Proposers are responsible for reviewing this attachment prior to submission of their Proposals. City of Madison Standard Terms and Conditions are the minimum requirements for the submission of Proposals.

1.7 Appendix B: Sample Contract for Purchase of Services

Proposers are responsible for reviewing this attachment prior to submission of their Proposals. The Sample Contract for Purchase of Services shall serve as the basis of the contract resulting from this RFP. The terms of this template contract shall become contractual obligations following award of the RFP. By submitting a proposal, Proposers affirm their willingness to enter into a contract containing these terms.

1.8 Affirmative Action Notice

If Contractor employs 15 or more employees and does aggregate annual business with the City of \$25,000 or more for the calendar year in which the PO and/or Contract takes effect, Contractor shall file, within thirty (30) days from the PO/Contract effective date and BEFORE RELEASE OF PAYMENT, an Affirmative Action Plan (www.cityofmadison.com/dcr/aaFormsVS.cfm) designed to ensure that the Contractor provides equal employment opportunity to all and takes affirmative action in its utilization of applicants and employees who are women, minorities and/or persons with disabilities. The Model Affirmative Action Plan for Vendors, Request for Exemption form, and instructions are available at: www.cityofmadison.com/dcr/aaForms.cfm or by contacting a Contract Compliance Specialist at the City of Madison Affirmative Action Division at (608) 266-4910.

Contractor shall also allow maximum feasible opportunity to small business enterprises to compete for any subcontracts entered into pursuant to this PO/Contract.

Job postings: If Contractor employs 15 or more employees, regardless of dollar amount, Contractor must notify the City of all external job openings at locations in Dane County, WI and Contractor agrees to interview candidates referred by the City or its designee. Job posting information is available at: www.cityofmadison.com/dcr/aaJobSkillsBank.cfm.

The complete set of Affirmative Action requirements for this purchase can be found in **paragraph 20 of Appendix A – Standard Terms and Conditions** and, if applicable, in **paragraph 13 of Appendix B – Sample Contract for Purchase of Services**.

1.9 Multiple Proposals

Multiple Proposals from Proposers are permitted; however, each must fully conform to the requirements for submission. Proposers must sequentially label (e.g., Proposal #1, Proposal #2) and separately package each Proposal. Proposers may submit alternate pricing schemes without having to submit multiple Proposals.

1.10 City of Madison Contact Information

The City of Madison Engineering is the procuring agency:	Jeanne Hoffman City of Madison Engineering PH: (608) 266-4091 jhoffman@cityofmadison.com
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The City of Madison Purchasing Services administers the procurement function:	Brian Pittelli Purchasing Services City-County Bldg, Room 407 210 Martin Luther King, Jr. Blvd. Madison, WI 53703-3346 PH: (608) 267-4969 FAX: (608) 266-5948 bpittelli@cityofmadison.com
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For questions regarding Affirmative Action Plans please contact:	Contract Compliance Department of Civil Rights City-County Bldg., Room 523 210 Martin Luther King, Jr. Blvd. Madison, WI 53703 PH: (608) 266-4910 dcr@cityofmadison.com
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The City employs spam filtering that occasionally blocks legitimate emails, holding them in ‘quarantine’ for four calendar days. The contacts listed in this RFP will acknowledge all emails received. Proposers not receiving acknowledgement within twenty-four hours shall follow-up via phone with specific information identifying the originating email address for message recovery.

1.11 Inquiries, Clarifications, and Exceptions

Proposers are to raise any questions they have about the RFP document without delay. Direct all questions, ***in writing***, to the Purchasing Services administrator listed in Section 1.10.

Proposers finding any significant ambiguity, error, conflict, discrepancy, omission, or other deficiency in this RFP document shall immediately notify the Buyer and request clarification. In the event that it is necessary to provide additional clarification or revision to the RFP, the City will post addenda – see 1.12 below. Proposers are strongly encouraged to check for addenda regularly.

Proposals should be as responsive as possible to the provisions stated herein. A prospective vendor may take “exception” to bid terms, conditions, specifications and dates stated within the bid package. However, the City of Madison reserves the right to disqualify any and all bids submitted which include exceptions, if deemed not in the City’s best interests.

1.12 Addenda

In the event that it is necessary to provide additional clarification or revision to the RFP, the City will post addenda to its Proposals distribution websites – see 1.13 below. It is the Proposers responsibility to regularly monitor the websites for any such postings. Proposers must acknowledge the receipt of any

addenda on Form B. Failure to retrieve addenda and include their provisions may result in disqualification.

1.13 Bid Distribution Networks

The City of Madison posts all Request for Proposals, addenda, tabulations, awards and related announcements on two distribution networks – VendorNet and DemandStar. The aforementioned documents are available **exclusively** from these websites. It is the Proposers responsibility to regularly monitor the bid distribution network for any such postings. Proposers failure to retrieve such addenda and incorporate their appropriate provisions in their response may result in disqualification. Both sites offer free registration to City Proposers.

State of Wisconsin VendorNet System: [State of Wisconsin and local agencies bid network. Registration is free. http://vendornet.state.wi.us/vendornet](http://vendornet.state.wi.us/vendornet)

DemandStar by Onvia: National bid network – Free subscription is available to access Proposals from the City of Madison and other Wisconsin agencies, participating in the Wisconsin Association of Public Purchasers (WAPP). A fee is required if subscribing to multiple agencies that are not included in WAPP.

Bid Opportunities: www.cityofmadison.com/finance/purchasing/bidDemandStar.cfm

Home Page: www.demandstar.com

To Register: www.onvia.com/WAPP

1.14 Local Vendor Preference

The City of Madison has adopted a local preference purchasing policy granting a scoring preference to local suppliers. Only suppliers registered as of the bid's due date will receive preference. Learn more and register at the City of Madison website: www.cityofmadison.com/business/localPurchasing.

1.15 Oral Presentations/Site Visits/Meetings

Proposers may be asked to attend meetings, make oral presentations, inspect City locations or make their facilities available for a site inspection as part of this RFP process. Such presentations, meetings or site visits will be at the Proposers expense.

1.16 Acceptance/Rejection of Proposals

The City reserves the right to accept or reject any or all proposals submitted, in whole or in part, and to waive any informalities or technicalities, which at the City's discretion is determined to be in the best interests of the City. Further, the City makes no representations that a contract will be awarded to any proposer responding to this request. The City expressly reserves the right to reject any and all proposals responding to this invitation without indicating any reasons for such rejection(s).

The City reserves the right to postpone due dates and openings for its own convenience and to withdraw this solicitation at any time without prior notice.

1.17 Withdrawal or Revision of Proposals

Proposers may, without prejudice, withdraw Proposals submitted prior to the date and time specified for receipt of Proposals by requesting such withdrawal before the due time and date of the submission of Proposals. After the due date of submission of Proposals, no Proposals may be withdrawn for a period of

90 days or as otherwise specified or provided by law. Proposers may modify their Proposals at any time prior to opening of Proposals.

1.18 Non-Material and Material Variances

The City reserves the right to waive or permit cure of nonmaterial variances in the offer if, in the judgment of the City, it is in the City's best interest to do so. The determination of materiality is in the sole discretion of the City.

1.19 Public Records

Proposers are hereby notified that all information submitted in response to this RFP may be made available for public inspection according to the Public Records Law of the State of Wisconsin or other applicable public record laws. Information qualifying as a "trade secret"—defined in State of Wisconsin Statutes—may be held confidential.

Proposers shall seal separately and clearly identify all information they deem to be "trade secrets," as defined in the State of Wisconsin Statutes. Do not duplicate or co-mingle information, deemed confidential and sealed, elsewhere in your response.

S. 19.36(5)

(5) TRADE SECRETS. An authority may withhold access to any record or portion of a record containing information qualifying as a trade secret as defined in s. 134.90(1)(c).

s. 134.90(1)(c)

(c) "Trade secret" means information, including a formula, pattern, compilation, program, device, method, technique or process to which all of the following apply:

1. The information derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use.
2. The information is the subject of efforts to maintain its secrecy that are reasonable under the circumstances.

The City cannot ensure that information will not be subject to release if a request is made under applicable public records laws. The City cannot consider the following confidential: a bid in its entirety, price bid information, or the entire contents of any resulting contract. The City will not provide advance notice to Proposers prior to release of any requested record.

To the extent permitted by such laws, it is the intention of the City to withhold the contents of Proposals from public view—until such times as competitive or bargaining reasons no longer require non-disclosure, in the City's opinion. At that time, all Proposals will be available for review in accordance with such laws.

1.20 Usage Reports

Annually, the successful Proposers shall furnish to City Purchasing usage reports summarizing the ordering history for each department served during the previous contract year. The report, at a minimum, must include each and every item or service ordered during the period, its total quantities and dollars by item/service and in total. The City reserves the right to request usage reports at any time and request additional information, if required, when reviewing contract activity.

1.21 Partial Award

Unless otherwise noted, it will be assumed that Proposers will accept an order for all or part of the items/services priced.

1.22 Tax Exempt

The City of Madison as a municipality is exempt from payment of federal excise taxes (Registration Number 39-73-0411-K) and State of Wisconsin taxes per Wisconsin statute 77.54(9a). Federal Tax ID #39-6005507. A completed Wisconsin Department of Revenue Form S-211 (R.2-00) can be found on the City website. Our tax-exempt number is ES 42916.

1.23 Cooperative Purchasing

Bidders may choose to extend prices offered on bids to other municipalities. Under Wisconsin Statutes, a municipality is defined as a county; city; village; town; school district; board of school directors; sewer district; drainage district; vocational, technical and adult education district; or any other public or quasi-public corporation, officer, board or other body having the authority to award public contracts. This is known as “cooperative” or “piggyback” purchasing, a practice common amongst units of government. The City is not responsible for any contract resulting from a cooperative purchase using this RFB as a basis; they are made solely between the bidders and third party unit of government.

1.24 Proposers Responsibility

Proposers shall examine this RFP and shall exercise their judgment as to the nature and scope of the work required. No plea of ignorance concerning conditions or difficulties that exist or may hereafter arise in the execution of the work under the resulting contract, as a consequence of failure to make necessary examinations and investigations, shall be accepted as an excuse for any failure or omission on the part of the Proposers to fulfill the requirements of the resulting contract.

2 DESCRIPTION OF SERVICES/COMMODITIES

2.1 Background on City of Madison

The City of Madison tracks all electricity and natural gas usage through a program called EnergyCap. The information is web based and the City is providing proposers with access to this information:

<https://web.energycap.com/>

username: rfp
password: madison
datasource: cityofmadison

Please note: the information is not weather normalized.

Please refer to Exhibits 3 – 6 for information on fuel usage and fleet information.

2.2 Current Sustainability Status

Facilities Management: (FM) provides project management service to almost all city agencies with regard to major remodeling projects, new construction and large capital maintenance items. FM manages these projects by developing project budgets, hiring outside Architect/Engineering teams, providing energy modeling/commissioning services (either in-house or consultants), reviewing designs, bidding out projects for Public Works bidding, providing construction administrative services including construction quality observations and verification in the field, and finalizing projects including warranty, training, measurement and verification. This process is done mostly on significant remodels and new construction. For all projects, FM also utilizes incentives and other services offered through the statewide energy efficiency and renewables program (Focus on Energy). This would include smaller remodels and capital maintenance items that are bid out through Public Works. Several projects include renewable energy systems such as PV and solar hot water.

FM also coordinates a monthly meeting with all city agencies on managing buildings and energy use. The Facilities and Energy Leadership Academy has been conducting trainings for over two years. This effort has resulted in several projects such as retro-commissioning a number of City buildings, providing specific training for city staff (i.e. BAS training), and assisting staff in various city agencies on energy management.

FM also works with Facilities Operations on coordinating and administering our Honeywell BAS system which operates in a number of city buildings.

Facilities Operations: (FO) maintains a number of city buildings, provides upgrades to many city buildings through in-house labor (i.e. boiler replacement, window replacements), runs a solar training program which hires underemployed/unemployed individuals and provides a 9-month long training program on solar installations. Through the program, the city adds approximately 100-200kW of solar PV per year to existing buildings. FO also administers the Honeywell BAS system in coordination with FM.

LEED Resolution: The Common Council passed a resolution in 2008, that all major remodels and new construction be required to become at a minimum and LEED-Silver certified building. As a result of that resolution the City currently has several buildings registered as LEED certified buildings

2.3 Sustainability Committee

In September 2004, the “Building a Green Capital City: A Blueprint for Madison’s Sustainable Design and Energy Future” report was published. The “Blueprint,” as it came to be known, was developed under the aegis of the Mayor’s Energy Task Force, a citizen group formed in October 2003. The Blueprint was the

centerpiece of an effort to make “Madison a green capital city and create a city that would be seen as a leader in energy efficiency and renewable energy that also supports the city’s economic vitality.”

Many of the recommendations in that report were implemented, particularly those that City government could implement and use to lead by example.

In 2009, it became evident that the Blueprint needed to be updated and expanded. The Sustainable Design and Energy Committee (SDEC), established by City Council in 2005 following the publication of the Blueprint, took up the task of formulating a broader set of recommendations for building sustainability into City operations and the broader community. Out of that effort came “The Madison Sustainability Plan: Fostering Environmental, Economic and Social Resilience,” which was approved in early 2012. The Plan examines community sustainability through 10 different lenses, one of them being carbon and energy. A Council resolution renamed SDEC the Sustainable Madison Committee (SMC), which now has an active Carbon and Energy workgroup.

Links to the City of Madison’s Sustainability Plans can be found here:
Building a Green Capital City

http://www.cityofmadison.com/sustainability/naturalStep/documents/GreenCapitalReport_1.pdf

The Madison Sustainability Plan: Fostering Environmental, Economic and Social Resilience
<http://www.cityofmadison.com/sustainability/documents/SustainPlan2011.pdf>

In early 2015, the Council approved a resolution directing the SMC to develop a more specific energy plan.

<https://madison.legistar.com/LegislationDetail.aspx?ID=2716863&GUID=D12C70E9-167E-447A-8DE8-8709F71F5C9E&Options=ID%7CText%7C&Search=Energy+Plan&FullText=1>

That Energy Plan was developed by members of SMC and approved by the Common Council in June of 2016.

<https://madison.legistar.com/LegislationDetail.aspx?ID=2716863&GUID=D12C70E9-167E-447A-8DE8-8709F71F5C9E&Options=ID%7CText%7C&Search=Energy+Plan&FullText=1>

One of the recommendations in the Energy Plan was for SMC members , along with community stakeholders, to review the climate change goals from The Madison Sustainability Plan and update them if needed.

Members of the SMC began meeting in summer of 2016 to review the climate change goals from the Madison Sustainability Plan. These meetings continued through fall of 2016, and resulted in the creation of a draft resolution calling on the City of Madison to set a goal of 100% renewable energy use and zero net carbon emissions for both City Operations and for the Community as a whole. The draft resolution also called on the City to lead the way by hiring a consultant to assist the City in determining strategies to reach this goal. The resolution did not provide a specific end date but instead ask that the report by the consultant provide options for the policymakers to consider. This resolution was passed unanimously by the Common Council on March 21, 2017.

<https://madison.legistar.com/LegislationDetail.aspx?ID=2913015&GUID=D46AEF56-9CA3-47F4-BF52-BB2378335225&Options=ID|Text|&Search=renewable>

2.4 Scope of Services

Consultants will need to review historical data on energy usage from the City of Madison and determine a projection of energy usage into the future. The consultant will need to provide a overview of energy usage in the community as a whole as well as within city operations.

Consultants will need to develop various strategies to achieve 100% renewable energy and zero net – carbon. Strategies can be considered for all energy types and can also consider providing a higher level of renewable energy for one energy type to off-set the carbon emissions from another fuel type.

Consultants will need to provide up to 3 timelines to achieve the goal using the developed strategies. Multiple timelines are intended to offer policymakers “aggressive”, “moderate” and “incremental” timelines.

Consultants will need to provide definitions and assumptions (i.e. What are renewable energy credits, net metering, etc.)

The strategies developed will need to be describing in both a policy/technical/legal terms (i.e. what are typical ways these strategies are done nationally and in Wisconsin considering Wisconsin’s regulatory environment.) and a financial term. What are the up-front costs, how can this be financed, what are the costs over the life of the asset, and will this strategy off-set other costs (i.e. fossil fuel costs.)? In addition, the strategies will need to show their potential towards achieving the goal and additional environmental, public health and/or social equity benefits for the community. These benefits should be quantified to the extent possible. The information must be presented in a technical document that the City of Madison can use as a blueprint to accomplish the goal but the information should also be presented in a way that policymakers can understand these ideas, strategies and performance in a non-technical presentation.

The Consultant will also provide some language/analysis on how these strategies that are developed for the City of Madison – City Operations to achieve the goals could be used for the community as a whole and what might that look like.

Key Activities:

A. The staff of the municipal agencies are the experts on city operations. Successful respondents will fully engage senior departmental staff of city agencies who will implement approved alterations of operations for energy efficiencies and energy source changes. These agencies include but not limited to: City Engineering, Facilities Management, Fleet Services, Metro Transit, Water Utility, Traffic Engineering/Parking Utility, Parks, CDA Housing, Library and Monona Terrace. The Attorney Office and the Finance Department will also be critical agencies during the development of strategies in terms of the legal issues that may need to be vetted and the financing strategies that may be contemplated. By engaging the Finance Department the consultants will gain knowledge of city finance operations, financial capacity and tools. The Finance and City Attorney will advise on potential issues concerning state and local financial authority. The City Attorney will provide guidance on energy generation law and utility regulation. Finally, the Mayor’s Office and the Common Council will need to be briefed during all phases of the project.

B. Consultants will also be expected to work with external stakeholders. First and foremost the Sustainable Madison Committee will require regular updates and opportunities for input. A sub-committee or workgroup of the SMC will be a steering committee that, along with the Facilities and Sustainability Manager, will assist the consultants with reviewing drafts, provide direction, discussion of timelines, etc. In addition, the consultants will need to present information by presenting at 3 public meetings.

Respondents will also work with staff of the local utilities, Madison Gas and Electric (MGE) and Alliant Energy to discuss cooperative strategies for energy efficiency and use of renewables. As an example, MGE has developed partnerships with other municipalities for shared solar. Madison has a number of non-profit organizations with many years of experience in the areas of energy efficiency and renewables. Respondents will benefit from development of a consultative relationship with these organizations. Madison is the home of the flagship campus of the University of Wisconsin. Researchers at the numerous research institutions may provide data and organizational insight concerning local conditions.

Reports and presentation of data should be readily understood by an educated but, in terms of an energy conceptual vocabulary, a lay audience. Data tables and graphs should include description of the

variables and if necessary, an explanation of the results. References and citations are helpful but should be kept to a minimum. Data comparing energy use by Madison with a similar cohort of cities and the experiences of other cities that have moved towards carbon neutral status when relevant can be instructive.

2.5 Proposed Deliverables/Timeline

Consultants will need to provide presentations to the various groups mentioned above, status reports to various internal and external groups as needed, presentations to the public and stakeholders, and a final report. The final report may be web based or in another electronic form.

Specifically, in addition to requirements listed other sections of the RFP, the consultants shall provide the following:

A. Baseline Data: Collect data from the past five years to assist in determining trends and to establish a baseline year for applicable energy use by fuel type and source. Then determine GHG emissions based on proven GHG conversions: The City of Madison has used GHG conversions based on ICELI-USA's ClearPath protocols.

Electrical Energy
Natural Gas
Gasoline
Diesel:

The information should also be available by type:

Buildings
Fleet vehicles
Heavy equipment
Water Utility (Water Conveyance)
Waste Water (Waste Conveyance)
External Lighting (Traffic Engineering and Parks)
Transit system

B. Assess current status of operational energy efficiencies. This may require an assessment of energy efficiency of some buildings, vehicles and mechanical equipment. Please note: many city buildings have undergone energy assessments. These assessments can be provided upon request. A report on energy efficiencies throughout city operations is included as an exhibit to this RFP. Consultants must review current information and provide estimates of potential energy efficiencies.

C. Provide estimates of costs/benefits of municipal development of renewable energy sources using a range of investment tools. Analyze ROI using multiple scenarios based on the city's current energy expense. Consultants will provide an analysis to determine the maximum reductions in GHG emissions over various time frames. This will also include recommendations on financing strategies (third-party operators, Green Energy Bonds, etc.), and potential for purchasing power from renewable sources.

D. Provide estimates of potential carbon offset strategies such as increase in tree plantings and purchase of offsets. Consultants will analyze data and make recommendations on the potential of carbon-negative offsets based on costs, social benefits and feasibility.

E. Provide analysis of multiple pathways towards maximizing energy efficiencies and substitution of renewable sources over time and incremental levels of expenditures. Consultants' analysis should include dollar and GHG savings as compared to status quo.

2.6 The Future

The Consultant will also provide some language/analysis on how these strategies that are developed for the City of Madison – City Operations to achieve the goals could be used for the community as a whole and what might that look like. This should include policy/technical/legal and financial information in order to start the community discussion on achieve this goal for the entire community.

2.7 On-Site Presentations

The short-listed vendors will be asked to make on-site demonstrations to the evaluation panel. The tentative dates will be:

Tuesday, June 6, 2017

Wednesday, June 7, 2017

3 REQUIRED INFORMATION AND CONTENT OF PROPOSALS

3.1 Section 1 – General Information, Signatures, and Required Guarantees and Certifications

1. Form A – Signature Affidavit
2. Form B – Receipt Forms and Submittal Checklist
3. Form C – Contractor Profile Information
4. Form E – References

3.2 Section 2 – Background Information

Responses must be in the same sequence as listed and must be identified with the corresponding question number, i.e., Question 1, Question 2, etc.

1. Company and History - Describe briefly your firm's background and history. State organization's size: local, regional, national and international, in relation to providing services requested in this RFP. State the location of the office from which this engagement will be serviced and the range of activities performed at that office. If you will be using subcontractors, please make note of that and provide the services that the subcontractors will be performing.
2. Team Members - Describe individual team members. Include names, titles, roles, and responsibilities for each team member. Identify the project manager and primary contact. Include resumes for all team members. The team should consist of people who have the policy, technical, legal, financial experience to address items in the scope of services. Please note: the City of Madison is also interested in the team having experience with communicating complicated ideas, concepts to an audience that is new to this information.

3.3 Section 3 – Technical Questionnaire

Responses must be in the same sequence as listed and must be identified with the corresponding question number, i.e., Question 1, Question 2, etc.

1. Please list other cities that you have done sustainability consulting for (related to energy and ideally the scope of services in this RFP) (max 3). Describe dates, tasks completed, recommendations, and the current status of the programs you recommended.
2. This project will have your company dealing with a variety of City agencies, elected bodies, and citizens. Do you have experience working on projects with different stakeholders? If yes, please give examples (max 3).
3. As part of the scope of this project, you will be required to make presentations to different committees as well as the community. What is your approach to engagement, especially explaining complex ideas to an audience that has very little knowledge of the topic?
4. Please provide examples of similar work your team as done in the past. Please provide references that we may contact to discuss this past work. These can be listed on Form E.
5. Please tell us what your corporate sustainability philosophy is, and how it will relate your work on the RFP.

3.4 Section 4 – Cost

Please submit cost proposal, Form D, separate from the rest of the proposal.



Form A: Signature Affidavit

RFP #: 8618-0-2017-BP Sustainability Consultant

This form must be returned with your response.

In signing Proposals, we certify that we have not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise take any action in restraint of free competition; that no attempt has been made to induce any other person or firm to submit or not to submit Proposals, that Proposals have been independently arrived at, without collusion with any other Proposers, competitor or potential competitor; that Proposals have not been knowingly disclosed prior to the opening of Proposals to any other Proposers or competitor; that the above statement is accurate under penalty of perjury.

The undersigned, submitting this Proposals, hereby agrees with all the terms, conditions, and specifications required by the City in this Request for Proposals, declares that the attached Proposals and pricing are in conformity therewith, and attests to the truthfulness of all submissions in response to this solicitation.

Proposers shall provide the information requested below. Include the legal name of the Proposers and signature of the person(s) legally authorized to bind the Proposers to a contract.

COMPANY NAME

SIGNATURE

DATE

PRINT NAME OF PERSON SIGNING



Form B: Receipt of Forms and Submittal Checklist

RFP #: 8618-0-2017-BP Sustainability Consultant

This form must be returned with your response.

Proposers hereby acknowledge the receipt and/or submittal of the following forms:

Forms	Initial to Acknowledge SUBMITTAL	Initial to Acknowledge RECEIPT
Description of Services/Commodities	N/A	
Form A: Signature Affidavit		
Form B: Receipt of Forms and Submittal Checklist		
Form C: Vendor Profile		
Form D: Cost Proposal		
Form E: References		
Appendix A: Standard Terms & Conditions	N/A	
Appendix B: Contract for Purchase of Services	N/A	
Exhibit 1:Regulatory Landscape	N/A	
Exhibit 2: Corporate Renewable Energy Buyers' Principles	N/A	
Exhibit 3: Fuel Information: Engineering	N/A	
Exhibit 4: Fuel Information – Fleet	N/A	
Exhibit 5: Fuel Information – Metro Transit	N/A	
Exhibit 6: Fuel Information – Water Utility	N/A	
Exhibit 7: Madison Municipal Operations and Building Energy Analysis for the 2015-2016 Budget Cycle	N/A	
Exhibit 8: Madison Municipal Operations Energy Analysis and Scenario Comparison	N/A	
Addendum #	N/A	
Addendum #	N/A	

VENDOR NAME

COMPANY NAME



Form C: Vendor Profile

RFP #: 8618-0-2017-BP Sustainability Consultant

This form must be returned with your response.

COMPANY INFORMATION

COMPANY NAME (Make sure to use your complete, legal company name.)			
FEIN		(If FEIN is not applicable, SSN collected upon award)	
CONTACT NAME (Able to answer questions about proposal.)		TITLE	
TELEPHONE NUMBER		FAX NUMBER	
EMAIL			
ADDRESS	CITY	STATE	ZIP

AFFIRMATIVE ACTION CONTACT

The successful Contractor, who employs more than 15 employees and whose aggregate annual business with the City for the calendar year, in which the contract takes effect, is more than twenty-five thousand dollars (\$25,000), will be required to comply with the City of Madison Affirmative Action Ordinance, Section 39.02(9) within thirty (30) days of award of contract.

CONTACT NAME		TITLE	
TELEPHONE NUMBER		FAX NUMBER	
EMAIL			
ADDRESS	CITY	STATE	ZIP

ORDERS/BILLING CONTACT

Address where City purchase orders/contracts are to be mailed and person the department contacts concerning orders and billing.

CONTACT NAME		TITLE	
TELEPHONE NUMBER		FAX NUMBER	
EMAIL			
ADDRESS	CITY	STATE	ZIP

LOCAL VENDOR STATUS

The City of Madison has adopted a local preference purchasing policy granting a scoring preference to local suppliers. Only suppliers registered as of the bid's due date will receive preference. Learn more and register at the City of Madison website.

CHECK ONLY ONE:

- ☐ **Yes**, we are a local vendor **and** have registered on the City of Madison website under the following category: _____ www.cityofmadison.com/business/localPurchasing
- ☐ **No**, we are not a local vendor or have not registered.



Form D: Cost Proposal

RFP #: 8618-0-2017-BP Sustainability Consultant

This form must be returned with your response.

Prepare the fee proposal as all inclusive, not-to-exceed, fixed fees:

- All Inclusive – Covers all direct and indirect necessary expenses including but not limited to; travel, telephone, copying and other out-of-pocket expenses.
- Not To Exceed – The actual fees shall not exceed the amount specified in fee proposal.
- Fixed Fee – All prices, rates, fees and conditions outlined in the proposal shall remain fixed and valid for the entire length of the contract and any/all renewals.

Any pricing increases or additions must be agreed upon in writing by both parties.

1. Please list all the different components or phases of work you foresee providing to the City of Madison based on the scope of work from the Scope of Services (section 2.4) and Proposed Deliverables/Timeline (section 2.5). Please provide the total cost for each component or phase as showing in the following chart. If you need extra space, feel free to use a separate sheet.

Phase of Work	Cost
	\$
	\$
	\$
	\$
	\$
	\$
	\$
	\$
Total	\$

2. Please provide the hourly billing rate for all team members that would be assigned this RFP:

Position	Name (if known)	Hourly Billing Rate

COMPANY NAME



Form E: References

RFP #: 8618-0-2017-BP Sustainability Consultant

This form must be returned with your response.

REFERENCE #1 – CLIENT INFORMATION			
COMPANY NAME	CONTACT NAME		
ADDRESS	CITY	STATE	ZIP
TELEPHONE NUMBER	FAX NUMBER		
EMAIL			
CONTRACT PERIOD	YEAR COMPLETED	TOTAL COST	
DESCRIPTION OF THE PERFORMED WORK			

REFERENCE #2 – CLIENT INFORMATION			
COMPANY NAME	CONTACT NAME		
ADDRESS	CITY	STATE	ZIP
TELEPHONE NUMBER	FAX NUMBER		
EMAIL			
CONTRACT PERIOD	YEAR COMPLETED	TOTAL COST	
DESCRIPTION OF THE PERFORMED WORK			

REFERENCE #3 – CLIENT INFORMATION			
COMPANY NAME	CONTACT NAME		
ADDRESS	CITY	STATE	ZIP
TELEPHONE NUMBER	FAX NUMBER		
EMAIL			
CONTRACT PERIOD	YEAR COMPLETED	TOTAL COST	
DESCRIPTION OF THE PERFORMED WORK			

COMPANY NAME



CITY OF MADISON

(STC-Form: 07/26/2016)

1. General. Throughout this document, "City of Madison," "City" and "Purchasing" shall be synonymous and mean the City of Madison. The words "bid" and "proposal" are synonymous, as are the words "bidder," "proposer" and "contractor." The phrases "request for proposal," "invitation for bids," "request," "invitation," and "solicitation" shall also be synonymous.

As applied to the winning or selected bidder, the words "bid," "proposal," and "contract" are synonymous.

2. Entire Agreement, Order of Precedence. These standard terms and conditions shall apply to any Purchase Order issued as a result of this Request for Bid/Proposal, except where expressly stated otherwise in the RFP or in a written instrument covering this purchase signed by an authorized representative of the City and the Contractor, in a form approved by the City Attorney (a "Separate Contract"). If such a separate contract is executed it shall constitute the entire agreement and no other terms and conditions, whether oral or written, shall be effective or binding unless expressly agreed to in writing by the City.

If a Separate Contract is not executed, these Standard Terms and Conditions, the City's request for proposals, the version of the vendor's bid that was accepted by the City, and the City's Purchase Order (if any) shall constitute a contract and will be the entire agreement.

Order of Precedence: If there is a conflict between this Section A and any terms in the vendor's accepted bid or proposal, this Section A shall control unless the parties expressly agree to another order of precedence, in writing. If there is a conflict between this Section A and a Separate Contract, the terms and conditions of the Separate Contract shall control.

I. TERMS FOR SUBMISSION OF BIDS: The following section applies to the bid/selection process only.

3. This invitation for bids does not commit the City to award a contract, pay any costs incurred in preparation of bids, or to procure or contract for services or equipment. The City may require the bidder to participate in negotiation and to submit such additional price or technical or other revisions to his or her bids as may result from negotiation. The bidder shall be responsible for all costs incurred as part of his or her participation in the pre-award process.

The City reserves the right to accept or reject any or all bids submitted, in whole or in part, and to waive any informalities or technicalities which at the City's discretion are determined to be in the best interests of the City. Further, the City makes no representations that a contract will be awarded to any offeror responding to this request. The City expressly reserves the right to reject any and all bids responding to this invitation without indicating any reasons for such rejections(s).

The City reserves the right to postpone due dates and openings for its own convenience and to withdraw this solicitation at any time without prior notice.

4. Addenda. Changes affecting the specifications will be made by addenda. Changes may include, or result in, a postponement in the bid due date. Bidders are required to complete the Bidder Response Sheet, acknowledging receipt of all parts of the bid, including all addenda.

5. Price Proposal. All bidders are required to identify the proposed manufacturer and model, and to indicate the proposed delivery time on the attached Proposal Form. Failure to do so may cause the bid to be considered not responsive. If desired, the bidder may include product literature and specifications. The price quoted will remain firm throughout each contract period. Any price increase proposed shall be submitted sixty (60) calendar days prior to subsequent contract periods and shall be limited to fully documented cost increases to the bidder which are demonstrated to be industry-wide.

6. Price Inclusion. The price quoted in any bid shall include all items of labor, materials, tools, equipment, and other costs necessary to fully complete the furnishing and delivery of equipment or services pursuant to the specifications attached thereof. Any items omitted from the specifications which are clearly necessary for the completion of the project shall be considered a portion of the specifications although not directly specified or called for in these specifications.

7. Pricing and Discount.

- a. Unit prices shown on the bid/proposal or contract shall be the price per unit of sale (e.g., gal., cs., doz., ea., etc.) as stated on the bid/proposal or contract. For any given item, the quantity multiplied by the unit price shall establish the extended price. If an apparent mistake exists in the extended price, the unit price shall govern in the bid/proposal evaluation and contract administration.
- b. In determination of award, discounts for early payment will only be considered when all other conditions are equal. Early payment is defined as payment within fifteen (15) days providing the discount terms are deemed favorable. All payment terms must allow the option of Net 30.

8. F.O.B. Destination Freight Prepaid. Bid prices must include all handling, transportation and insurance charges. Failure to bid FOB Destination Freight Prepaid may disqualify your bid.

9. Award.

- a. The City will have sole discretion as to the methodology used in making the award. Where none is specified, the award will be made to the lowest responsible bidder in compliance with the specifications and requirements of this solicitation.
- b. The right is reserved to make a separate award of each item, group of items or all items, and to make an award in whole or in part, whichever is deemed in the best interest of the City.

10. Responsiveness and Responsibility. Award will be made to the responsible and responsive bidder whose bid is most advantageous to the City with price and other factors considered. For the purposes of this project, responsiveness is defined as the bidder's conformance to the requirements of the solicitation. Being not responsive includes the failure to furnish information requested.

Responsibility is defined as the bidder's potential ability to perform successfully under the terms of the proposed contract. Briefly, a responsible bidder has adequate financial resources or the ability to obtain said resources; can comply with required delivery taking into account other business commitments; has a satisfactory performance record; has a satisfactory record of integrity and business ethics; and has the necessary organization, experience and technical skills.

The City reserves the right to refuse to accept any bid from any person, firm or corporation that is in arrears or is in default to the City, or has failed to perform faithfully any previous contract with the City. If requested, the bidder must present within five (5) working days evidence satisfactory to the City of performance ability and possession of necessary facilities, financial resources, adequate insurance, and any other resources required to determine the bidder's ability to comply with the terms of this solicitation document.

11. Cancellation.

- a. The City reserves the right to cancel any contract in whole or in part without penalty due to non-appropriation of funds.
- b. In the event the Bidder shall default in any of the covenants, agreements, commitments, or conditions and any such default shall continue unremedied for a period of ten (10) days after written notice to the Bidder, the City may, at its option and in addition to all other rights and remedies which it may have, terminate the Agreement and all rights of the Bidder under the Agreement.
- c. Failure to maintain the required certificates of insurance, permits, licenses and bonds will be cause for contract termination. If the Bidder fails to maintain and keep in force the insurance, if required, the City shall have the right to cancel and terminate the contract without notice.

II. CONDITIONS OF PURCHASE: The following section applies to purchases/contracts after the award. See Paragraphs 1 & 2 for applicability and order of precedence.

12. Specifications.

- a. All bidders must be in compliance with all specifications and any drawings provided with this solicitation. Exceptions taken to these specifications must be noted on your bid.
- b. When specific manufacturer and model numbers are used, they are to establish a design, type, construction, quality, functional capability and/or performance level desired. When alternates are bid/proposed, they must be identified by manufacturer, stock number, and the bidder/proposer is responsible for providing sufficient information to establish equivalency. The City shall be the sole judge of equivalency. Bidders are cautioned to avoid bidding alternates which do not meet specifications, which may result in rejection of their bid/proposal.

13. Regulatory Compliance.

- a. Seller represents and warrants that the goods or services furnished hereunder, including all labels, packages, and container for said goods, comply with all applicable standards, rules and regulations in effect under the requirements of all Federal, State and local laws, rules and regulations as applicable, including the Occupational Safety and Health Act (OSHA), as amended, with respect to design, manufacture or use for their intended purpose of said goods or services. Seller shall furnish Material Safety Data Sheets (MSDS) whenever applicable.
- b. If it is determined by the City that such standards are not met, the seller agrees to bear all costs required to meet the minimum standards as stated above for the equipment/products furnished under this contract.

14. Warranty. Unless otherwise specifically stated by the bidder, products shall be warranted against defects by the bidder for ninety (90) days from the date of receipt. If bidder or manufacturer offers warranty that exceeds 90 days, such warranty shall prevail.

15. Ownership of Printing Materials. All artwork, camera-ready copy, negative, dies, photos and similar materials used to produce a printing job shall become the property of the City. Any furnished materials shall remain the property of the City. Failure to meet this requirement will disqualify your bid.

16. Item Return Policy. Bidder will be required to accept return of products ordered in error for up to twenty-one (21) calendar days from date of receipt, with the City paying only the return shipping costs. Indicate in detail on the Bidder Response Sheet, your return policy.

17. Payment Terms and Invoicing. The City will pay properly submitted vendor invoices within thirty (30) days of receipt, providing good and/or services have been delivered, installed (if required), and accepted as specified.

- a. Payment shall be considered timely if the payment is mailed, delivered, or transferred within thirty (30) days after receipt of a properly completed invoice, unless the vendor is notified in writing by the agency of a dispute before payment is due.
- b. Invoices presented for payment must be submitted in accordance with instructions contained on the purchase order, including reference to purchase order and submittal to the correct address for processing. Invoice payment processing address is shown on the upper middle section of the purchase order. Send invoices to Accounts Payable address on the purchase order. Do not send invoices to Purchasing or ship to address.
- c. Bidders, proposers shall include discounts for early payment as a percent reduction of invoice. Invoice discounts shall be determined where applicable, from the date of acceptance of goods and/or the receipt of invoice, whichever is later. Discounts for early payment terms stated on the bid/proposal must be shown plainly on the invoice; discounts for early payment not shown on the invoice will be taken.
- d. Invoices submitted not in accordance with these instructions will be removed from the payment process and returned within ten (10) days.

18. F.O.B. Destination Freight Prepaid. Unless otherwise agreed in writing, the vendor shall bear all handling, transportation and insurance charges. Title of goods shall pass upon acceptance of goods at the City's dock.

19. Tax Exemption. The City of Madison is exempt from the payment of Federal Excise Tax and State Sales Tax. **The City Tax Exempt number is ES 42916.** Any other sales tax, use tax, imposts, revenues, excise, or other taxes which are now, or which may hereafter be imposed by Congress, the State of Wisconsin, or any other political subdivision thereof and applicable to the sale of material delivered as a result of the bidder's bid and which, by terms of the tax law, may be passed directly to the City, will be paid by the City.

20. Affirmative Action.

A. The following language applies to all successful bidders employing fifteen (15) or more employees (MGO 39.02(9)(c):

The Contractor agrees that, within thirty (30) days after the effective date of this Contract, Contractor will provide to the City of Madison Department of Civil Rights (the "Department"), certain workforce utilization statistics, using a form provided by the City.

If the Contract is still in effect, or if the City enters into a new Agreement with the Contractor, within one year after the date on which the form was required to be provided, the Contractor will provide updated workforce information using a second form, also to be furnished by the City. The second form will be submitted to the Department no later than one year after the date on which the first form was required to be provided.

The Contractor further agrees that, for at least twelve (12) months after the effective date of this Contract, it will notify the Department of each of its job openings at facilities in Dane County for which applicants not already employees of the Contractor are to be considered. The notice will include a job description, classification, qualifications, and application procedures and deadlines, shall be provided to the City by the opening date of advertisement and with sufficient time for the City to notify candidates and make a timely referral. The Contractor agrees to interview and consider candidates referred by the Department, or an organization designated by the Department, if the candidate meets the minimum qualification standards established by the Contractor, and if the referral is timely. A referral is timely if it is received by the Contractor on or before the date stated in the notice.

The Department will determine if a contractor is exempt from the above requirements (Sec. 20.A.) at the time the Request for Exemption in 20.B.(2) is made.

B. Articles of Agreement, Request for Exemption, and Release of Payment:

The "ARTICLES OF AGREEMENT" beginning on the following page, apply to all contractors, unless determined to be exempt under the following table and procedures:

NUMBER OF EMPLOYEES	LESS THAN \$25,000 Aggregate Annual Business with the City*	\$25,000 OR MORE Aggregate Annual Business with the City*
14 or less	Exempt**	Exempt**
15 or more	Exempt**	Not Exempt

*As determined by the Finance Director

**As determined by the Department of Civil Rights

(1) Exempt Status: In this section, "Exempt" means the Contractor is exempt from the Articles of Agreement in section 20.B.(5) of this Contract and from filing an Affirmative Action plan as required by Section IV of the Articles of Agreement. The Department of Civil Rights ("Department") makes the final determination as to whether a contractor is exempt. If the Contractor is not exempt, sec. 20.B.(5) shall apply and Contractor shall select option A. or B. under Article IV therein and file an Affirmative Action Plan.

(2) Request for Exemption – Fewer Than 15 Employees: (MGO 39.02(9)(a)2.) Contractors who believe they are exempt based on number of employees shall submit a Request for Exemption on a form provided by the Department within thirty (30) days of the effective date of this Contract.

(3) Exemption – Annual Aggregate Business: (MGO 39.02(9)(a)c.): The Department will determine, at the time this Contract is presented for signature, if the Contractor is exempt because it will have less than \$25,000 in annual aggregate business with the City in the calendar year. CONTRACTORS WITH 15 OR MORE EMPLOYEES WILL LOSE THIS EXEMPTION AND BECOME SUBJECT TO SEC. 20.B.(5) UPON REACHING \$25,000 OR MORE ANNUAL AGGREGATE BUSINESS WITH THE CITY WITHIN THE CALENDAR YEAR.

(4) Release of Payment: (MGO 39.02(9)(e)1.b.) All non-exempt contractors must have an approved Affirmative Action plan meeting the requirements of Article IV below on file with the Department within thirty (30) days of the effective date of this Contract and prior to release of payment by the City. Contractors that are exempt based on number of employees agree to file a Request for Exemption with the Department within thirty (30) days of the effective date and prior to release of payment by the City.

(5) Articles of Agreement:

ARTICLE I

The Contractor shall take affirmative action in accordance with the provisions of this Contract to insure that applicants are employed, and that employees are treated during employment without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin and that the employer shall provide harassment-free work environment for the realization of the potential of each employee. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training including apprenticeship insofar as it is within the control of the Contractor. The Contractor agrees to post in conspicuous places available to employees and applicants notices to be provided by the City setting out the provisions of the nondiscrimination clauses in this Contract.

ARTICLE II

The Contractor shall in all solicitations or advertisements for employees placed by or on behalf of the Contractors state that all qualified or qualifiable applicants will be employed without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin.

ARTICLE III

The Contractor shall send to each labor union or representative of workers with which it has a collective bargaining Agreement or other Contract or understanding a notice to be provided by the City advising the labor union or workers representative of the Contractor's equal employment opportunity and affirmative action commitments. Such notices shall be posted in conspicuous places available to employees and applicants for employment.

ARTICLE IV

(This Article applies to non-public works contracts.)

The Contractor agrees that it will comply with all provisions of the Affirmative Action Ordinance of the City of Madison (MGO 39.02) including the Contract compliance requirements. The Contractor warrants and certifies that one of the following paragraphs is true (check one):

- ☐ A. Contractor has prepared and has on file an affirmative action plan that meets the format requirements of Federal Revised Order No. 4, 41 CFR part 60-2, as established by 43 FR 51400 November 3, 1978, including appendices required by City of Madison ordinances or it has prepared and has on file a model affirmative action plan approved by the Madison Common Council.
- ☐ B. Within thirty (30) days after the effective date of this Contract, Contractor will complete an affirmative action plan that meets the format requirements of Federal Revised Order No. 4, 41 CFR Part 60-2, as established by 43 FR 51400, November 3, 1978, including appendices required by City of Madison ordinance or within thirty (30) days after the effective date of this Contract, it will complete a model affirmative action plan approved by the Madison Common Council.
- ☐ C. Contractor believes it is exempt from filing an affirmative action plan because it has fewer than fifteen (15) employees and has filed, or will file within thirty (30) days after the effective date of this Contract, a form required by the City to confirm exempt status based on number of employees. If the City determines that Contractor is not exempt, the Articles of Agreement will apply.
- ☐ D. Contractor believes it is exempt from filing an affirmative action plan because its annual aggregate business with the City for the calendar year in which the contract takes effect is less than twenty-five thousand dollars (\$25,000), or for another reason listed in MGO 39.02(9)(a)2. If the City determines that Contractor is not exempt, the Articles of Agreement will apply.

ARTICLE V

(This Article applies only to public works contracts.)

The Contractor agrees that it will comply with all provisions of the Affirmative Action Ordinance of the City of Madison, including the Contract compliance requirements. The Contractor agrees to submit the model affirmative action plan for public works Contractors in a form approved by the Director of Affirmative Action.

ARTICLE VI

The Contractor will maintain records as required by Section 39.02(9)(f) of the Madison General Ordinances and will provide the City's Department of Affirmative Action with access to such records and to persons who have relevant and necessary information, as provided in Section 39.02(9)(f). The City agrees to keep all such records confidential, except to the extent that public inspection is required by law.

ARTICLE VII

In the event of the Contractor's or subcontractor's failure to comply with the Equal Employment Opportunity and Affirmative Action provisions of this Contract or Sections 39.03 and 39.02 of the Madison General Ordinances, it is agreed that the City at its option may do any or all of the following:

- A. Cancel, terminate or suspend this Contract in whole or in part.
- B. Declare the Contractor ineligible for further City contracts until the Affirmative Action requirements are met.
- C. Recover on behalf of the City from the prime Contractor 0.5 percent of the Contract award price for each week that such party fails or refuses to comply, in the nature of liquidated damages, but not to exceed a total of five percent (5%) of the Contract price, or five thousand dollars (\$5,000), whichever is less. Under public works contracts, if a subcontractor is in noncompliance, the City may recover liquidated damages from the prime Contractor in the manner described above. The preceding sentence shall not be construed to prohibit a prime Contractor from recovering the amount of such damage from the noncomplying subcontractor.

ARTICLE VIII

(This Article applies to public works contracts only.)

The Contractor shall include the above provisions of this Contract in every subcontract so that such provisions will be binding upon each subcontractor. The Contractor shall take such action with respect to any subcontractor as necessary to enforce such provisions, including sanctions provided for noncompliance.

ARTICLE IX

The Contractor shall allow the maximum feasible opportunity to small business enterprises to compete for any subcontracts entered into pursuant to this Contract. (In federally funded contracts the terms "DBE, MBE, and WBE" shall be substituted for the term "small business" in this Article.)

21. **Non-Discrimination.** In the performance of work under this Contract, the Contractor agrees not to discriminate against any employee or applicant for employment because of race, religion, marital status, age, color, sex, handicap, national origin or ancestry, income level or source of income, arrest record or conviction record, less than honorable discharge, physical appearance, sexual orientation, gender identity, political beliefs or student status. Contractor further agrees not to discriminate against any subcontractor or person who offers to subcontract on this Contract because of race, religion, color, age, disability, sex, sexual orientation, gender identity or national origin.
22. **Living Wage.** (Applicable to Service Contracts Exceeding \$5,000.) The bidder agrees to pay all employees employed in the performance of this contract, whether on full-time or part-time basis, a base wage of not less than the City minimum hourly wage as required by Section 4.20, Madison General Ordinances. Additional information is available on our website: www.cityofmadison.com/finance/wage.
23. **Prevailing Wage.** (Applicable to single-trade projects of \$48,000 or more & multiple-trade projects of \$100,000 or more.) When required by Wis. 66.0903, the Contractor warrants that prevailing wages will be paid to all trades and occupations, as may be applicable under Wisconsin Statutes sec. 66.0903. Wage scale is on file with the City Engineer and linked at www.cityofmadison.com/finance/purchasing (See "Prevailing Wage Rates.").
24. **Indemnification.** The Contractor shall be liable to and hereby agrees to indemnify, defend and hold harmless the City of Madison, and its officers, officials, agents, and employees against all loss or expense (including liability costs and attorney's fees) by reason of any claim or suit, or of liability imposed by law upon the City or its officers, officials, agents or employees for damages because of bodily injury, including death at any time resulting therefrom, sustained by any person or persons or on account of damages to property, including loss of use thereof, arising from, in connection with, caused by or resulting from the acts or omissions of Contractor and any of Contractor's subcontractors in the performance of this agreement, whether caused by or contributed to by the negligence of the City or its officers, officials, agents or employees.
25. **Insurance.**
The Contractor will insure, and will require each subcontractor to insure, as indicated, against the following risks to the extent stated below. The Contractor shall not commence work under this Contract, nor shall the Contractor allow any Subcontractor to commence work on its Subcontract, until the insurance required below has been obtained and corresponding certificate(s) of insurance have been approved by the City Risk Manager.
- Commercial General Liability - The Contractor shall procure and maintain during the life of this contract, Commercial General Liability insurance including, but not limited to, products and completed operations, bodily injury, property damage, personal injury, and products and completed operations (unless determined to be inapplicable by the Risk Manager) in an amount not less than \$1,000,000 per occurrence. This policy shall also provide contractual liability in the same amount. Contractor's coverage shall be primary and list the City of Madison, its officers, officials, agents and employees as additional insureds. Contractor shall require all subcontractors under this Contract (if any) to procure and maintain insurance meeting the above criteria, applying on a primary basis and listing the City of Madison, its officers, officials, agents and employees as additional insureds.
 - Automobile Liability - The Contractor shall procure and maintain during the life of this contract Business Automobile Liability insurance covering owned, non-owned and hired automobiles with limits of not less than \$1,000,000 combined single limit per accident. Contractor shall require all subcontractors under this Contract (if any) to procure and maintain insurance covering each subcontractor and meeting the above criteria.
 - Worker's Compensation - The Contractor shall procure and maintain during the life of this contract statutory Workers' Compensation insurance as required by the State of Wisconsin. The Contractor shall also carry Employers Liability limits of at least \$100,000 Each Accident, \$100,000 Disease – Each Employee, and \$500,000 Disease – Policy Limit. Contractor shall require all subcontractors under this Contract (if any) to procure and maintain such insurance, covering each subcontractor.
 - Professional Liability - The Contractor shall procure and maintain professional liability insurance with coverage of not less than \$1,000,000. If such policy is a "claims made" policy, all renewals thereof during the life of the contract shall include "prior acts coverage" covering at all times all claims made with respect to Contractor's work performed under the contract. This Professional Liability coverage must be kept in force for a period of six (6) years after the services have been accepted by the City.
 - Acceptability of Insurers - The above-required insurance is to be placed with insurers who have an A.M. Best rating of no less than A- (A minus) and a Financial Category rating of no less than VII.
 - Proof of Insurance, Approval. The Contractor shall provide the City with certificate(s) of insurance showing the type, amount, effective dates, and expiration dates of required policies prior to commencing work under this Contract. Contractor shall provide the certificate(s) to the City's representative upon execution of the Contract, or sooner, for approval by the City Risk Manager. If any of the policies required above expire while this Contract is in effect, Contractor shall provide renewal certificate(s) to the City for approval. Certificate Holder language should be listed as follows:
City of Madison
ATTN: Risk Management, Room 406
210 Martin Luther King, Jr. Blvd.
Madison, WI 53703
The Contractor shall provide copies of additional insured endorsements or insurance policies, if requested by the City Risk Manager. The Contractor and/or Insurer shall give the City thirty (30) days advance written notice of cancellation, non-renewal or material changes to any of the above-required policies during the term of this Contract.
26. **Work Site Damages.** Any damage, including damage to finished surfaces, resulting from the performance of this contract shall be repaired to the Owner's satisfaction at the Contractor's expense.
27. **Compliance.**
- Regulations. The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the work.

- b. Licensing and Permits. The Contractor selected under this bid shall be required to demonstrate valid **possession of appropriate required licenses and will** keep them in effect for the term of this contract. The Contractor shall also be required, when appropriate, to obtain the necessary building permits prior to performing work on City facilities.

28. Warranty of Materials and Workmanship.

- a. The Contractor warrants that, unless otherwise specified, all materials and equipment incorporated in the work under the Contract shall be new, first class, and in accordance with the Contract Documents. The Contractor further warrants that all workmanship shall be first class and in accordance with the Contract Documents and shall be performed by persons qualified in their respective trades.
- b. Work not conforming to these warranties shall be considered defective.
- c. This warranty of materials and workmanship is separate and independent from and in addition to any other guarantees in this Contract.

29. Replacement of Defective Work or Materials. Any work or material found to be in any way defective or unsatisfactory shall be corrected or replaced by the Contractor at its own expense at the order of the City notwithstanding that it may have been previously overlooked or passed by an inspector. Inspection shall not relieve the Contractor of its obligations to furnish materials and workmanship in accordance with this contract and its specifications.

30. Reservation of the Right to Inspect Work. At any time during normal business hours and as often as the City may deem necessary, the Contractor shall permit the authorized representatives of the City to review and inspect all materials and workmanship at any time during the duration of this contract, provided, however, the City is under no duty to make such inspections, and any inspection so made shall not relieve the Contractor from any obligation to furnish materials and workmanship strictly in accordance with the instructions, contract requirements and specifications.

31. Sweatfree Procurement of Items of Apparel. If this bid results in the procurement of \$5,000 or more in garments or items of clothing, any part of which is a textile, or any shoes/ footwear, then Madison General Ordinances, Sec. 4.25 "Procurement of Items of Apparel", is hereby incorporated by reference and made part of this contract. See MGO 4.25(2) for applicability specifics. The contractor shall follow labor practices consistent with international standards of human rights, meaning that, at a minimum, contractor shall adhere to the minimum employment standards found in Section 4.25 and shall require all subcontractors and third-party suppliers to do the same. For purposes of sec. 4.25, "Subcontractor" means a person, partnership, corporation or other entity that enters into a contract with the contractor for performance of some or all of the City-contracted work and includes all third-party suppliers or producers from whom the contractor or its contractors obtains or sources goods, parts or supplies for use on the city contract and is intended to include suppliers at all level of the supply chain. The standards in Sec. 4.25 shall apply in all aspects of the contractor's and subcontractor's operations, including but not limited to, manufacture, assembly, finishing, laundering or dry cleaning, (where applicable), warehouse distribution, and delivery. Contractor acknowledges that by entering into this contract, Contractor shall be subject to all of the requirements and sanctions of sec. 4.25 of the Madison General Ordinances.

The sanctions for violating Sec. 4.25 under an existing contract are as follows:

- a. Withholding of payments under an existing contract.
- b. Liquidated damages. The contractor may be charged liquidated damages on an existing contract of two thousand dollars (\$2,000) per violation, or an amount equaling twenty percent (20%) of the value of the apparel, garments or corresponding accessories, equipment, materials, or supplies that the City demonstrates were produced in violation of the contract and/or this ordinance per violation; whichever is greater.
- c. Termination, suspension or cancellation of a contract in whole or in part.
- d. Nonrenewal when a contract calls for optional renewals.
- e. Nonrenewal for lack of progress or impossible compliance. The City reserves the right to refuse to renew the contract that calls for optional renewals, when the contractor cannot comply with the minimum standard under (4)(b) and the noncompliance is taking place in a country where:
 - (1) Progress toward implementation of the standards in this Ordinance is no longer being made; and
 - (2) Compliance with the employment standards in the Ordinance is deemed impossible by the City and/or any independent monitoring agency acting on behalf of the City. Such determination shall be made in the sole opinion of the City and may be based upon examination of reports from governmental, human rights, labor and business organizations and after consultation with the relevant contractors and sub-contractors and any other evidence the City deems reliable.
- f. Disqualification of the contractor from bidding or submitting proposals on future City contracts, or from eligibility for future city procurements as defined in sub. (2), whether or not formal bidding or requests for proposals are used, for a period of one (1) year after the first violation is found and for a period of three (3) years after a second or subsequent violation is found. The disqualification shall apply to the contractor who committed the violation(s) whether that be under the same corporate name, or as an individual, or under the name of another corporation or business entity of which he or she is a member, partner, officer, or agent.

The exercise by the City of any or all of the above remedies, or failure to so exercise, shall not be construed to limit other remedies available to the City under this Contract nor to any other remedies available at equity or at law.

32. Local Purchasing. The City of Madison has adopted a local preference purchasing policy granting a 5 percent request for proposal and 1 percent request for bid scoring preference to local vendors.

To facilitate the identification of local suppliers, the City has provided an on-line website as an opportunity for suppliers to voluntarily identify themselves as local, and to assist City staff with their buying decisions. Proposers seeking to obtain local preference are required to register on the City of Madison online registration website. Only vendors registered as of the bid due date will receive preference. Additional information is available at: www.cityofmadison.com/business/localPurchasing.

33. Equal Benefits Requirement. (Sec. 39.07, MGO)

This provision applies to service contracts of more than \$25,000 executed, extended, or renewed by the City on July 1, 2012 or later, unless exempt by Sec. 39.07 of the Madison General Ordinances (MGO).

For the duration of this Contract, the Contractor agrees to offer and provide benefits to employees with domestic partners that are equal to the benefits offered and provided to married employees with spouses, and to comply with all provisions of Sec. 39.07, MGO. If a benefit would be available to the spouse of a married employee, or to the employee based on his or her status as a spouse, the benefit shall also be made available to a domestic partner of an employee, or to the employee based on his or her status as a domestic partner. "Benefits" include any plan, program or policy provided or offered to employees as part of the employer's total compensation package, including but not limited to, bereavement leave, family medical leave, sick leave, health insurance or other health benefits, dental insurance or other dental benefits, disability insurance, life insurance, membership or membership discounts, moving expenses, pension and retirement benefits, and travel benefits.

Cash Equivalent. If after making a reasonable effort to provide an equal benefit for a domestic partner of an employee, the Contractor is unable to provide the benefit, the Contractor shall provide the employee with the cash equivalent of the benefit.

Proof of Domestic Partner Status. The Contractor may require an employee to provide proof of domestic partnership status as a prerequisite to providing the equal benefits. Any such requirement of proof shall comply with Sec. 39.07(4), MGO.

Notice Posting, Compliance. The Contractor shall post a notice informing all employees of the equal benefit requirements of this Contract, the complaint procedure, and agrees to produce records upon request of the City, as required by Sec. 39.07, MGO.

Subcontractors (Service Contracts Only). Contractor shall require all subcontractors, the value of whose work is twenty-five thousand dollars (\$25,000) or more, to provide equal benefits in compliance with Sec. 39.07, MGO.

34. Weapons Prohibition. Contractor shall prohibit, and shall require its subcontractors to prohibit, its employees from carrying weapons, including concealed weapons, in the course of performance of work under this Contract, other than while at the Contractor's or subcontractor's own business premises. This requirement shall apply to vehicles used at any City work site and vehicles used to perform any work under this Contract, except vehicles that are an employee's "own motor vehicle" pursuant to Wis. Stat. sec. 175.60(15m). This section does not apply to employees who are required to carry a weapon under the express terms of the Contract (such as armed security guard services, etc.).

35. Software & Technology Purchases.

- a. Software Licenses. All software license agreements shall include the City's mandatory legal terms and conditions as determined by the City Attorney. Please be advised that no City employee has the authority to bind the City by clicking on a End User License Agreement (EULA) or any other click-through terms and conditions. All legal documents associated with the purchase or download of software must be reviewed by the City Attorney and may only be signed by an individual authorized to do so.
- b. Network Connection Policy. If this purchase includes software support, software maintenance, network services, and/or system development services and will require a Network Connection the City Network (as defined in the following link), the City's Network Connection Policy found at this link: www.cityofmadison.com/attorney/documents/posNetworkConnection.doc is hereby incorporated and made a part of the Contract and Contractor agrees to comply with all of its requirements.

36. Ban the Box - Arrest and Criminal Background Checks.

This provision applies to service contracts of more than \$25,000 executed by the City on January 1, 2016 or later, unless exempt by Sec. 39.08 of the Madison General Ordinances (MGO).

- a. Definitions. For purposes of this requirement, "Arrest and Conviction Record" includes, but is not limited to, information indicating that a person has been questioned, apprehended, taken into custody or detention, held for investigation, arrested, charged with, indicted or tried for any felony, misdemeanor or other offense pursuant to any law enforcement or military authority.

"Conviction record" includes, but is not limited to, information indicating that a person has been convicted of a felony, misdemeanor or other offense, placed on probation, fined, imprisoned or paroled pursuant to any law enforcement or military authority.

"Background Check" means the process of checking an applicant's arrest and conviction record, through any means.

- b. Requirements. For the duration of any contract awarded under this RFP, the successful contractor shall:
 - (1) Remove from all job application forms any questions, check boxes, or other inquiries regarding an applicant's arrest and conviction record, as defined herein.
 - (2) Refrain from asking an applicant in any manner about their arrest or conviction record until after a conditional offer of employment is made to the applicant in question.
 - (3) Refrain from conducting a formal or informal background check or making any other inquiry using any privately or publicly available means of obtaining the arrest or conviction record of an applicant until after a conditional offer of employment is made to the applicant in question.
 - (4) Make information about this ordinance available to applicants and existing employees, and post notices in prominent locations at the workplace with information about the ordinance and complaint procedure, using language provided by the City.
 - (5) Comply with all other provisions of Sec. 39.08, MGO.
- c. Exemptions: This section does not apply when:
 - (1) Hiring for a position where certain convictions or violations are a bar to employment in that position under applicable law, or
 - (2) Hiring a position for which information about criminal or arrest record, or a background check is required by law to be performed at a time or in a manner that would otherwise be prohibited by this ordinance, including a licensed trade or profession where the licensing authority explicitly authorizes or requires the inquiry in question.To be exempt under sec. C.1. or 2. above, contractor must demonstrate to the City that there is a law or regulation that requires the background check in question. If so, the contractor is exempt from this section for the position(s) in question.

City of Madison

CONTRACT FOR PURCHASE OF SERVICES

1. PARTIES.

This is a Contract between the City of Madison, Wisconsin, hereafter referred to as the "City" and _____ hereafter referred to as "Contractor."

The Contractor is a: ☐ Corporation ☐ Limited Liability Company ☐ General Partnership ☐ LLP
(to be completed by contractor) ☐ Sole Proprietor ☐ Unincorporated Association ☐ Other: _____.

2. PURPOSE.

The purpose of this Contract is as set forth in Section 3.

3. SCOPE OF SERVICES AND SCHEDULE OF PAYMENTS.

Contractor will perform the following services and be paid according to the following schedule(s) or attachment(s):

List all attachments here by name, and attach and label them accordingly.

Order of Precedence: In the event of a conflict between the terms of this Contract for Purchase of Services and the terms of any document attached or incorporated herein, the terms of this Contract for Purchase of Services shall control and supersede any such conflicting term.

4. TERM AND EFFECTIVE DATE.

This Contract shall become effective upon execution by the Mayor, (or the Purchasing Agent, if authorized) on behalf of the City of Madison, unless another effective date is specified in the Attachment(s) incorporated in Section 3, however in no case shall work commence before execution by the City of Madison. The term of this Contract shall be insert dates or reference attachments as needed.

5. ENTIRE AGREEMENT.

This Contract for Purchase of Services, including any and all attachments, exhibits and other documents referenced in Section 3 (hereafter, "Agreement" or "Contract") is the entire Agreement of the parties and supersedes any and all oral contracts and negotiations between the parties. If any document referenced in Section 3 includes a statement that expressly or implicitly disclaims the applicability of this Contract for Purchase of Services, or a statement that such other document is the "entire agreement," such statement shall be deemed rejected and shall not apply to this Contract.

6. ASSIGNABILITY/SUBCONTRACTING.

Contractor shall not assign or subcontract any interest or obligation under this Contract without the City's prior written approval. All of the services required hereunder will be performed by Contractor and employees of Contractor.

7. DESIGNATED REPRESENTATIVE.

- A. Contractor designates _____ as Contract Agent with primary responsibility for the performance of this Contract. In case this Contract Agent is replaced by another for any reason, the Contractor will designate another Contract Agent within seven (7) calendar days of the time the first terminates his or her employment or responsibility using the procedure set forth in Section 15, Notices.
- B. In the event of the death, disability, removal or resignation of the person designated above as the Contract agent, the City may accept another person as the Contract agent or may terminate this Agreement under Section 25, at its option.

8. PROSECUTION AND PROGRESS.

- A. Services under this Agreement shall commence upon written order from the City to the Contractor, which order will constitute authorization to proceed; unless another date for commencement is specified elsewhere in this Contract including documents incorporated in Section 3.
- B. The Contractor shall complete the services under this Agreement within the time for completion specified in Section 3, the Scope of Services, including any amendments. The Contractor's services are completed when the City notifies the Contractor in writing that the services are complete and are acceptable. The time for completion shall not be extended because of any delay attributable to the Contractor, but it may be extended by the City in the event of a delay attributable to the City, or in the event of unavoidable delay caused by war, insurrection, natural disaster, or other unexpected event beyond the control of the Contractor. If at any time the Contractor believes that the time for completion of the work should be extended because of unavoidable delay caused by an unexpected event, or because of a delay attributable to the City, the Contractor shall notify the City as soon as possible, but not later than seven (7) calendar days after such an event. Such notice shall include any justification for an extension of time and shall identify the amount of time claimed to be necessary to complete the work.
- C. Services by the Contractor shall proceed continuously and expeditiously through completion of each phase of the work.
- D. Progress reports documenting the extent of completed services shall be prepared by the Contractor and submitted to the City with each invoice under Section 24 of this Agreement, and at such other times as the City may specify, unless another procedure is specified in Section 3.
- E. The Contractor shall notify the City in writing when the Contractor has determined that the services under this Agreement have been completed. When the City determines that the services are complete and are acceptable, the City will provide written notification to the Contractor, acknowledging formal acceptance of the completed services.

9. AMENDMENT.

This Contract shall be binding on the parties hereto, their respective heirs, devisees, and successors, and cannot be varied or waived by any oral representations or promise of any agent or other person of the parties hereto. Any other change in any provision

of this Contract may only be made by a written amendment, signed by the duly authorized agent or agents who executed this Contract.

10. **EXTRA SERVICES.**

The City may require the Contractor to perform extra services or decreased services, according to the procedure set forth in Section 24. Extra services or decreased services means services which are not different in kind or nature from the services called for in the Scope of Services, Section 3, but which may increase or decrease the quantity and kind of labor or materials or expense of performing the services. Extra services may not increase the total Contract price, as set forth in Section 23, unless the Contract is amended as provided in Section 9 above.

11. **NO WAIVER.**

No failure to exercise, and no delay in exercising, any right, power or remedy hereunder on the part of the City or Contractor shall operate as a waiver thereof, nor shall any single or partial exercise of any right, power or remedy preclude any other or further exercise thereof or the exercise of any other right, power or remedy. No express waiver shall affect any event or default other than the event or default specified in such waiver, and any such waiver, to be effective, must be in writing and shall be operative only for the time and to the extent expressly provided by the City or Contractor therein. A waiver of any covenant, term or condition contained herein shall not be construed as a waiver of any subsequent breach of the same covenant, term or condition.

12. **NON-DISCRIMINATION.**

In the performance of work under this Contract, the Contractor agrees not to discriminate against any employee or applicant for employment because of race, religion, marital status, age, color, sex, handicap, national origin or ancestry, income level or source of income, arrest record or conviction record, less than honorable discharge, physical appearance, sexual orientation, gender identity, political beliefs or student status. Contractor further agrees not to discriminate against any subcontractor or person who offers to subcontract on this Contract because of race, religion, color, age, disability, sex, sexual orientation, gender identity or national origin.

13. **AFFIRMATIVE ACTION.**

A. The following language applies to all contractors employing fifteen (15) or more employees (MGO 39.02(9)(c):

The Contractor agrees that, within thirty (30) days after the effective date of this Contract, Contractor will provide to the City of Madison Department of Civil Rights (the "Department"), certain workforce utilization statistics, using a form provided by the City.

If the Contract is still in effect, or if the City enters into a new Agreement with the Contractor, within one year after the date on which the form was required to be provided, the Contractor will provide updated workforce information using a second form, also to be furnished by the City. The second form will be submitted to the Department no later than one year after the date on which the first form was required to be provided.

The Contractor further agrees that, for at least twelve (12) months after the effective date of this Contract, it will notify the Department of each of its job openings at facilities in Dane County for which applicants not already employees of the Contractor are to be considered. The notice will include a job description, classification, qualifications, and application procedures and deadlines, shall be provided to the City by the opening date of advertisement and with sufficient time for the City to notify candidates and make a timely referral. The Contractor agrees to interview and consider candidates referred by the Department, or an organization designated by the Department, if the candidate meets the minimum qualification standards established by the Contractor, and if the referral is timely. A referral is timely if it is received by the Contractor on or before the date stated in the notice.

The Department will determine if a contractor is exempt from the above requirements (Sec. 13.A.) at the time the Request for Exemption in 13.B.(2) is made.

B. Articles of Agreement, Request for Exemption, and Release of Payment:

The "ARTICLES OF AGREEMENT" beginning on the following page, apply to all contractors, unless determined to be exempt under the following table and procedures:

NUMBER OF EMPLOYEES	LESS THAN \$25,000 Aggregate Annual Business with the City*	\$25,000 OR MORE Aggregate Annual Business with the City*
14 or less	Exempt**	Exempt**
15 or more	Exempt**	Not Exempt

*As determined by the Finance Director

**As determined by the Department of Civil Rights

(1) **Exempt Status:** In this section, "Exempt" means the Contractor is exempt from the Articles of Agreement in section 13.B.(5) of this Contract and from filing an Affirmative Action plan as required by Section IV of the Articles of Agreement. The Department of Civil Rights ("Department") makes the final determination as to whether a contractor is exempt. If the Contractor is not exempt, sec. 13.B.(5) shall apply and Contractor shall select option A. or B. under Article IV therein and file an Affirmative Action Plan.

(2) **Request for Exemption – Fewer Than 15 Employees:** (MGO 39.02(9)(a)2.) Contractors who believe they are exempt based on number of employees shall submit a Request for Exemption on a form provided by the Department within thirty (30) days of the effective date of this Contract.

(3) **Exemption – Annual Aggregate Business:** (MGO 39.02(9)(a)c.): The Department will determine, at the time this Contract is presented for signature, if the Contractor is exempt because it will have less than \$25,000 in annual aggregate business with the City in the calendar year. CONTRACTORS WITH 15 OR MORE EMPLOYEES WILL LOSE THIS

EXEMPTION AND BECOME SUBJECT TO SEC. 13.B.(5) UPON REACHING \$25,000 OR MORE ANNUAL AGGREGATE BUSINESS WITH THE CITY WITHIN THE CALENDAR YEAR.

(4) Release of Payment: (MGO 39.02(9)(e)1.b.) All non-exempt contractors must have an approved Affirmative Action plan meeting the requirements of Article IV below on file with the Department within thirty (30) days of the effective date of this Contract and prior to release of payment by the City. Contractors that are exempt based on number of employees agree to file a Request for Exemption with the Department within thirty (30) days of the effective date and prior to release of payment by the City.

(5) Articles of Agreement:

ARTICLE I

The Contractor shall take affirmative action in accordance with the provisions of this Contract to insure that applicants are employed, and that employees are treated during employment without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin and that the employer shall provide harassment-free work environment for the realization of the potential of each employee. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training including apprenticeship insofar as it is within the control of the Contractor. The Contractor agrees to post in conspicuous places available to employees and applicants notices to be provided by the City setting out the provisions of the nondiscrimination clauses in this Contract.

ARTICLE II

The Contractor shall in all solicitations or advertisements for employees placed by or on behalf of the Contractors state that all qualified or qualifiable applicants will be employed without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin.

ARTICLE III

The Contractor shall send to each labor union or representative of workers with which it has a collective bargaining Agreement or other Contract or understanding a notice to be provided by the City advising the labor union or workers representative of the Contractor's equal employment opportunity and affirmative action commitments. Such notices shall be posted in conspicuous places available to employees and applicants for employment.

ARTICLE IV

(This Article applies to non-public works contracts.)

The Contractor agrees that it will comply with all provisions of the Affirmative Action Ordinance of the City of Madison (MGO 39.02) including the Contract compliance requirements. The Contractor warrants and certifies that one of the following paragraphs is true (**check one**):

- ☐ A. Contractor has prepared and has on file an affirmative action plan that meets the format requirements of Federal Revised Order No. 4, 41 CFR part 60-2, as established by 43 FR 51400 November 3, 1978, including appendices required by City of Madison ordinances or it has prepared and has on file a model affirmative action plan approved by the Madison Common Council.
- ☐ B. Within thirty (30) days after the effective date of this Contract, Contractor will complete an affirmative action plan that meets the format requirements of Federal Revised Order No. 4, 41 CFR Part 60-2, as established by 43 FR 51400, November 3, 1978, including appendices required by City of Madison ordinance or within thirty (30) days after the effective date of this Contract, it will complete a model affirmative action plan approved by the Madison Common Council.
- ☐ C. Contractor believes it is exempt from filing an affirmative action plan because it has fewer than fifteen (15) employees and has filed, or will file within thirty (30) days after the effective date of this Contract, a form required by the City to confirm exempt status based on number of employees. If the City determines that Contractor is not exempt, the Articles of Agreement will apply.
- ☐ D. Contractor believes it is exempt from filing an affirmative action plan because its annual aggregate business with the City for the calendar year in which the contract takes effect is less than twenty-five thousand dollars (\$25,000), or for another reason listed in MGO 39.02(9)(a)2. If the City determines that Contractor is not exempt, the Articles of Agreement will apply.

ARTICLE V

(This Article applies only to public works contracts.)

The Contractor agrees that it will comply with all provisions of the Affirmative Action Ordinance of the City of Madison, including the Contract compliance requirements. The Contractor agrees to submit the model affirmative action plan for public works Contractors in a form approved by the Director of Affirmative Action.

ARTICLE VI

The Contractor will maintain records as required by Section 39.02(9)(f) of the Madison General Ordinances and will provide the City's Department of Affirmative Action with access to such records and to persons who have relevant and necessary information, as provided in Section 39.02(9)(f). The City agrees to keep all such records confidential, except to the extent that public inspection is required by law.

ARTICLE VII

In the event of the Contractor's or subcontractor's failure to comply with the Equal Employment Opportunity and Affirmative Action provisions of this Contract or Sections 39.03 and 39.02 of the Madison General Ordinances, it is agreed that the City at its option may do any or all of the following:

- A. Cancel, terminate or suspend this Contract in whole or in part.
- B. Declare the Contractor ineligible for further City contracts until the Affirmative Action requirements are met.
- C. Recover on behalf of the City from the prime Contractor 0.5 percent of the Contract award price for each week that such party fails or refuses to comply, in the nature of liquidated damages, but not to exceed a total of five percent (5%) of the Contract price, or five thousand dollars (\$5,000), whichever is less. Under public works contracts, if a subcontractor is in noncompliance, the City may recover liquidated damages from the prime Contractor in the manner described above. The preceding sentence shall not be construed to prohibit a prime Contractor from recovering the amount of such damage from the noncomplying subcontractor.

ARTICLE VIII

(This Article applies to public works contracts only.)

The Contractor shall include the above provisions of this Contract in every subcontract so that such provisions will be binding upon each subcontractor. The Contractor shall take such action with respect to any subcontractor as necessary to enforce such provisions, including sanctions provided for noncompliance.

ARTICLE IX

The Contractor shall allow the maximum feasible opportunity to small business enterprises to compete for any subcontracts entered into pursuant to this Contract. (In federally funded contracts the terms "DBE, MBE, and WBE" shall be substituted for the term "small business" in this Article.)

14. **SEVERABILITY.**

It is mutually agreed that in case any provision of this Contract is determined by any court of law to be unconstitutional, illegal or unenforceable, it is the intention of the parties that all other provisions of this Contract remain in full force and effect.

15. **NOTICES.**

All notices to be given under the terms of this Contract shall be in writing and signed by the person serving the notice and shall be sent registered or certified mail, return receipt requested, postage prepaid, or hand delivered to the addresses of the parties listed below:

FOR THE CITY:

(Department or Division Head)

FOR THE CONTRACTOR:

16. **STATUS OF CONTRACTOR/INDEPENDENT/TAX FILING.**

It is agreed that Contractor is an independent Contractor and not an employee of the City, and that any persons who the Contractor utilizes and provides for services under this Contract are employees of the Contractor and are not employees of the City of Madison.

Contractor shall provide its taxpayer identification number (or social security number) to the Finance Director, 210 Martin Luther King Jr. Blvd, Room 406, Madison, WI 53703, prior to payment. The Contractor is informed that as an independent Contractor, s/he may have a responsibility to make estimated tax returns, file tax returns, and pay income taxes and make social security payments on the amounts received under this Contract and that no amounts will be withheld from payments made to this Contractor for these purposes and that payment of taxes and making social security payments are solely the responsibility and obligation of the Contractor. The Contractor is further informed that s/he may be subject to civil and/or criminal penalties if s/he fails to properly report income and pay taxes and social security taxes on the amount received under this Contract.

17. **GOODWILL.**

Any and all goodwill arising out of this Contract inures solely to the benefit of the City; Contractor waives all claims to benefit of such goodwill.

18. **THIRD PARTY RIGHTS.**

This Contract is intended to be solely between the parties hereto. No part of this Contract shall be construed to add, supplement, amend, abridge or repeal existing rights, benefits or privileges of any third party or parties, including but not limited to employees of either of the parties.

19. **AUDIT AND RETAINING OF DOCUMENTS.**

The Contractor agrees to provide all reports requested by the City including, but not limited to, financial statements and reports, reports and accounting of services rendered, and any other reports or documents requested. Financial and service reports shall be provided according to a schedule (when applicable) to be included in this Contract. Any other reports or documents shall be provided within five (5) working days after the Contractor receives the City's written requests, unless the parties agree in writing on a longer period. Payroll records and any other documents relating to the performance of services under the terms of this Contract shall be retained by the Contractor for a period of three (3) years after completion of all work under this Contract, in order to be available for audit by the City or its designee.

20. **CHOICE OF LAW AND FORUM SELECTION.**

This Contract shall be governed by and construed, interpreted and enforced in accordance with the laws of the State of Wisconsin. The parties agree, for any claim or suit or other dispute relating to this Contract that cannot be mutually resolved, the venue shall be a court of competent jurisdiction within the State of Wisconsin and the parties agree to submit themselves to the jurisdiction of said court, to the exclusion of any other judicial district that may have jurisdiction over such a dispute according to any law.

21. **COMPLIANCE WITH APPLICABLE LAWS.**

The Contractor shall become familiar with, and shall at all times comply with and observe all federal, state, and local laws, ordinances, and regulations which in any manner affect the services or conduct of the Contractor and its agents and employees.

22. **CONFLICT OF INTEREST.**

- A. The Contractor warrants that it and its agents and employees have no public or private interest, and will not acquire directly or indirectly any such interest, which would conflict in any manner with the performance of the services under this Agreement.
- B. The Contractor shall not employ or Contract with any person currently employed by the City for any services included under the provisions of this Agreement.

23. **COMPENSATION.**

It is expressly understood and agreed that in no event will the total compensation under this Contract exceed \$_____.

24. **BASIS FOR PAYMENT.**

A. **GENERAL.**

- (1) The City will pay the Contractor for the completed and accepted services rendered under this Contract on the basis and at the Contract price set forth in Section 23 of this Contract. The City will pay the Contractor for completed and approved "extra services", if any, if such "extra services" are authorized according to the procedure established in this section. The rate of payment for "extra services" shall be the rate established in this Contract. Such payment shall be full compensation for services rendered and for all labor, material, supplies, equipment and incidentals necessary to complete the services.
- (2) The Contractor shall submit invoices, on the form or format approved by the City and as may be further specified in Section 3 of this Contract. The City will pay the Contractor in accordance with the schedule, if any, set forth in Section 3. The final invoice, if applicable, shall be submitted to the City within three months of completion of services under this Agreement.
- (3) Should this Agreement contain more than one service, a separate invoice and a separate final statement shall be submitted for each individual service.
- (4) Payment shall not be construed as City acceptance of unsatisfactory or defective services or improper materials.
- (5) Final payment of any balance due the Contractor will be made upon acceptance by the City of the services under the Agreement and upon receipt by the City of documents required to be returned or to be furnished by the Contractor under this Agreement.
- (6) The City has the equitable right to set off against any sum due and payable to the Contractor under this Agreement, any amount the City determines the Contractor owes the City, whether arising under this Agreement or under any other Agreement or otherwise.
- (7) Compensation in excess of the total Contract price will not be allowed unless authorized by an amendment under Section 9, AMENDMENT.
- (8) The City will not compensate for unsatisfactory performance by the Contractor.

B. **SERVICE ORDERS, EXTRA SERVICE, OR DECREASED SERVICE.**

- (1) Written orders regarding the services, including extra services or decreased services, will be given by the City, using the procedure set forth in Section 15, NOTICES.
- (2) The City may, by written order, request extra services or decreased services, as defined in Section 10 of this Contract. Unless the Contractor believes the extra services entitle it to extra compensation or additional time, the Contractor shall proceed to furnish the necessary labor, materials, and professional services to complete the services within the time limits specified in the Scope of Services, Section 3 of this Agreement, including any amendments under Section 9 of this Agreement.
- (3) If in the Contractor's opinion the order for extra service would entitle it to extra compensation or extra time, or both, the Contractor shall not proceed to carry out the extra service, but shall notify the City, pursuant to Section 15 of this Agreement. The notification shall include the justification for the claim for extra compensation or extra time, or both, and the amount of additional fee or time requested.
- (4) The City shall review the Contractor's submittal and respond in writing, either authorizing the Contractor to perform the extra service, or refusing to authorize it. The Contractor shall not receive additional compensation or time unless the extra compensation is authorized by the City in writing.

25. **DEFAULT/TERMINATION.**

- A. In the event Contractor shall default in any of the covenants, agreements, commitments, or conditions herein contained, and any such default shall continue unremedied for a period of ten (10) days after written notice thereof to Contractor, the City may, at its option and in addition to all other rights and remedies which it may have at law or in equity against Contractor, including expressly the specific enforcement hereof, forthwith have the cumulative right to immediately terminate this Contract and all rights of Contractor under this Contract.
- B. Notwithstanding paragraph A., above, the City may in its sole discretion and without any reason terminate this Agreement at any time by furnishing the Contractor with ten (10) days' written notice of termination. In the event of termination under this subsection, the City will pay for all work completed by the Contractor and accepted by the City.

26. **INDEMNIFICATION.**

The Contractor shall be liable to and hereby agrees to indemnify, defend and hold harmless the City of Madison, and its officers, officials, agents, and employees against all loss or expense (including liability costs and attorney's fees) by reason of any claim or suit, or of liability imposed by law upon the City or its officers, officials, agents or employees for damages because of bodily injury, including death at any time resulting therefrom, sustained by any person or persons or on account of damages to property, including loss of use thereof, arising from, in connection with, caused by or resulting from the Contractor's and/or Subcontractor's acts or omissions in the performance of this Agreement, whether caused by or contributed to by the negligence of the City, its officers, officials, agents, or its employees.

27. **INSURANCE.**

The Contractor will insure, and will require each subcontractor to insure, as indicated, against the following risks to the extent stated below. The Contractor shall not commence work under this Contract, nor shall the Contractor allow any Subcontractor to commence work on its Subcontract, until the insurance required below has been obtained and corresponding certificate(s) of insurance have been approved by the City Risk Manager.

Commercial General Liability

The Contractor shall procure and maintain during the life of this Contract, Commercial General Liability insurance including, but not limited to bodily injury, property damage, personal injury, and products and completed operations (unless determined to be inapplicable by the Risk Manager) in an amount not less than \$1,000,000 per occurrence. This policy shall also provide contractual liability in the same amount. Contractor's coverage shall be primary and list the City of Madison, its officers, officials, agents and employees as additional insureds. Contractor shall require all subcontractors under this Contract (if any) to procure and maintain insurance meeting the above criteria, applying on a primary basis and listing the City of Madison, its officers, officials, agents and employees as additional insureds.

Automobile Liability

The Contractor shall procure and maintain during the life of this Contract Business Automobile Liability insurance covering owned, non-owned and hired automobiles with limits of not less than \$1,000,000 combined single limit per accident. Contractor shall require all subcontractors under this Contract (if any) to procure and maintain insurance covering each subcontractor and meeting the above criteria.

Worker's Compensation

The Contractor shall procure and maintain during the life of this Contract statutory Workers' Compensation insurance as required by the State of Wisconsin. The Contractor shall also carry Employers Liability limits of at least \$100,000 Each Accident, \$100,000 Disease – Each Employee, and \$500,000 Disease – Policy Limit. Contractor shall require all subcontractors under this Contract (if any) to procure and maintain such insurance, covering each subcontractor.

Professional Liability

The Contractor shall procure and maintain professional liability insurance with coverage of not less than \$1,000,000. If such policy is a "claims made" policy, all renewals thereof during the life of the Contract shall include "prior acts coverage" covering at all times all claims made with respect to Contractor's work performed under the Contract. This Professional Liability coverage must be kept in force for a period of six (6) years after the services have been accepted by the City.

Acceptability of Insurers. The above-required insurance is to be placed with insurers who have an A.M. Best rating of no less than A- (A minus) and a Financial Category rating of no less than VII.

Proof of Insurance, Approval. The Contractor shall provide the City with certificate(s) of insurance showing the type, amount, effective dates, and expiration dates of required policies prior to commencing work under this Contract. Contractor shall provide the certificate(s) to the City's representative upon execution of the Contract, or sooner, for approval by the City Risk Manager. If any of the policies required above expire while this Contract is still in effect, Contractor shall provide renewal certificate(s) to the City for approval. Certificate Holder language should be listed as follows:

City of Madison
ATTN: Risk Management, Room 406
210 Martin Luther King, Jr. Blvd.
Madison, WI 53703

The Contractor shall provide copies of additional insured endorsements or insurance policies, if requested by the City Risk Manager. The Contractor and/or Insurer shall give the City thirty (30) days advance written notice of cancellation, non-renewal or material changes to any of the above-required policies during the term of this Contract.

28. **OWNERSHIP OF CONTRACT PRODUCT.**

All of the work product, including, but not limited to, documents, materials, files, reports, data, including magnetic tapes, disks of computer-aided designs or other electronically stored data or information (the "Documents"), which the Contractor prepares pursuant to the terms and conditions of this Contract are the sole property of the City. The Contractor will not publish any such materials or use them for any research or publication, other than as expressly required or permitted by this Contract, without the prior written permission of the City. The grant or denial of such permission shall be at the City's sole discretion.

The Contractor intends that the copyright to the Documents shall be owned by City, whether as author (as a Work Made For Hire), or by assignment from Contractor to City. The parties expressly agree that the Documents shall be considered a Work Made For Hire as defined by Title 17, United States Code, Section 101(2).

As further consideration for the City entering into this Contract, the Contractor hereby assigns to City all of the Contractor's rights, title, interest and ownership in the Documents, including the right to procure the copyright therein and the right to secure any renewals, reissues and extensions of any such copyright in any foreign country. The City shall be entitled to the sole and exclusive benefit of the Documents, including the copyright thereto, and whenever required by the City, the Contractor shall at no additional compensation, execute all documents of assignment of the full and exclusive benefit and copyright thereof to the City. Any subcontractors and other independent Contractors who prepare portions of the Documents shall be required by the Contractor to execute an assignment of ownership in favor of the City before commencing work.

29. **LIVING WAGE (Applicable to contracts exceeding \$5,000).**

Unless exempt by MGO 4.20, the Contractor agrees to pay all employees employed by the Contractor in the performance of this Contract, whether on a full-time or part-time basis, a base wage of not less than the City minimum hourly wage as required by Section 4.20, Madison General Ordinances.

30. **EQUAL BENEFITS REQUIREMENT (Sec. 39.07, MGO.) (Applicable to contracts exceeding \$25,000).**

This provision applies to service contracts of more than \$25,000 executed, extended, or renewed by the City on July 1, 2012 or later, unless exempt by Sec. 39.07 of the Madison General Ordinances (MGO).

For the duration of this Contract, the Contractor agrees to offer and provide benefits to employees with domestic partners that are equal to the benefits offered and provided to married employees with spouses, and to comply with all provisions of Sec. 39.07, MGO. If a benefit would be available to the spouse of a married employee, or to the employee based on his or her status as a spouse, the benefit shall also be made available to a domestic partner of an employee, or to the employee based on his or her status as a domestic partner. "Benefits" include any plan, program or policy provided or offered to employees as part of the employer's total compensation package, including but not limited to, bereavement leave, family medical leave, sick leave, health insurance or other health benefits, dental insurance or other dental benefits, disability insurance, life insurance, membership or membership discounts, moving expenses, pension and retirement benefits, and travel benefits.

Cash Equivalent. If after making a reasonable effort to provide an equal benefit for a domestic partner of an employee, the Contractor is unable to provide the benefit, the Contractor shall provide the employee with the cash equivalent of the benefit.

Proof of Domestic Partner Status. The Contractor may require an employee to provide proof of domestic partnership status as a prerequisite to providing the equal benefits. Any such requirement of proof shall comply with Sec. 39.07(4), MGO.

Notice Posting, Compliance. The Contractor shall post a notice informing all employees of the equal benefit requirements of this Contract, the complaint procedure, and agrees to produce records upon request of the City, as required by Sec. 39.07, MGO.

Subcontractors (Service Contracts Only). Contractor shall require all subcontractors, the value of whose work is twenty-five thousand dollars (\$25,000) or more, to provide equal benefits in compliance with Sec. 39.07, MGO.

31. **BAN THE BOX - ARREST AND CRIMINAL BACKGROUND CHECKS. (Sec. 39.08, MGO. Applicable to contracts exceeding \$25,000.)**

A. **DEFINITIONS.**

For purposes of this section, "Arrest and Conviction Record" includes, but is not limited to, information indicating that a person has been questioned, apprehended, taken into custody or detention, held for investigation, arrested, charged with, indicted or tried for any felony, misdemeanor or other offense pursuant to any law enforcement or military authority.

"Conviction record" includes, but is not limited to, information indicating that a person has been convicted of a felony, misdemeanor or other offense, placed on probation, fined, imprisoned or paroled pursuant to any law enforcement or military authority.

"Background Check" means the process of checking an applicant's arrest and conviction record, through any means.

B. **REQUIREMENTS.** For the duration of this Contract, the Contractor shall:

- (1) Remove from all job application forms any questions, check boxes, or other inquiries regarding an applicant's arrest and conviction record, as defined herein.
- (2) Refrain from asking an applicant in any manner about their arrest or conviction record until after conditional offer of employment is made to the applicant in question.
- (3) Refrain from conducting a formal or informal background check or making any other inquiry using any privately or publicly available means of obtaining the arrest or conviction record of an applicant until after a conditional offer of employment is made to the applicant in question.
- (4) Make information about this ordinance available to applicants and existing employees, and post notices in prominent locations at the workplace with information about the ordinance and complaint procedure using language provided by the City.
- (5) Comply with all other provisions of Sec. 39.08, MGO.

C. **EXEMPTIONS:** This section does not apply when:

- (1) Hiring for a position where certain convictions or violations are a bar to employment in that position under applicable law, or
- (2) Hiring a position for which information about criminal or arrest record, or a background check is required by law to be performed at a time or in a manner that would otherwise be prohibited by this ordinance, including a licensed trade or profession where the licensing authority explicitly authorizes or requires the inquiry in question.

To be exempt under sec. C.(1) or (2) above, Contractor must demonstrate to the City that there is a law or regulation that requires the hiring practice in question. If so, the contractor is exempt from this section for the position(s) in question.

32. **WEAPONS PROHIBITION.**

Contractor shall prohibit, and shall require its subcontractors to prohibit, its employees from carrying weapons, including concealed weapons, in the course of performance of work under this Contract, other than while at the Contractor's or subcontractor's own business premises. This requirement shall apply to vehicles used at any City work site and vehicles used to perform any work under this Contract, except vehicles that are an employee's "own motor vehicle" pursuant to Wis. Stat. sec. 175.60(15m).

33. **IT NETWORK CONNECTION POLICY.**

If this Contract includes services such as software support, software maintenance, network services, and/or system development services and will require a Network Connection the City Network (as defined in the following link), the City's Network Connection Policy found at this link: <http://www.cityofmadison.com/attorney/documents/posNetworkConnection.doc> is hereby incorporated and made a part of this Contract and Contractor agrees to comply with all of its requirements.

34. **AUTHORITY.**

Contractor represents that it has the authority to enter into this Contract. If the Contractor is not an individual, the person signing on behalf of the Contractor represents and warrants that he or she has been duly authorized to bind the Contractor and sign this Contract on the Contractor's behalf.

35. **COUNTERPARTS, ELECTRONIC DELIVERY.**

This Contract may be signed in counterparts, each of which shall be taken together as a whole to comprise a single document. Signatures on this Contract may be exchanged between the parties by facsimile, electronic scanned copy (.pdf) or similar technology and shall be as valid as original. Executed copies or counterparts of this Contract may be delivered by facsimile or email and upon receipt will be deemed original and binding upon the parties hereto, whether or not a hard copy is also delivered. Copies of this Contract, fully executed, shall be as valid as an original.

SAMPLE

IN WITNESS WHEREOF, the parties hereto have set their hands at Madison, Wisconsin.

CONTRACTOR

(Type or Print Name of Contracting Entity)

By: _____

(Signature)

(Print Name and Title of Person Signing)

Date: _____

**CITY OF MADISON, WISCONSIN
a municipal corporation**

By: _____

Paul R. Soglin, Mayor

Date: _____

Approved:

David P. Schmiedicke, Finance Director

By: _____

Maribeth Witzel-Behl, City Clerk

Date: _____

Date: _____

Approved as to Form:

Eric T. Veum, Risk Manager

Michael P. May, City Attorney

Date: _____

Date: _____

NOTE: Certain service contracts may be executed by the designee of the Finance Director on behalf of the City of Madison:

By: _____

Randy Whitehead, CPA
Principal Accountant

Date

MGO 4.26(3) and (5) authorize the Finance Director or designee to sign purchase of service contracts when all of the following apply:

- (a) The funds are included in the approved City budget.
- (b) An RFP or competitive process was used, or the Contract is exempt from competitive bidding under 4.26(4)(a).
- (c) The City Attorney has approved the form of the Contract.
- (d) The Contract complies with other laws, resolutions and ordinances.
- (e) The Contract is for a period of 1 year or less, OR not more than 3 years AND the average cost is not more than \$50,000 per year, AND was subject to competitive bidding. (If over \$25,000 and exempt from bidding under 4.26(4)(a), regardless of duration of the Contract, the Common Council must authorize the Contract by resolution and the Mayor and City Clerk must sign, per 4.26(5)(b).)

Emergency Service contracts may also be signed by the designee of the Finance Director if the requirements of MGO 4.26(3)(c) are met.

Regulatory landscape - Electricity

Overview

All retail electric customers residing in Madison are served by one of two investor-owned utilities. Most of Madison lies within the service boundaries of Madison Gas & Electric (MGE), but there are areas in the Far West and Far East sides of town that are served by Alliant Energy's regulated affiliate in Wisconsin - Wisconsin Power & Light (WPL). Investor-owned utilities are regulated by the Public Service Commission of Wisconsin (PSCW), which reviews and approves all aspects of the electric service provided to their retail customers.

If regulated utilities wish to build new electric generation capacity above a certain cost threshold, they must obtain permission from the PSC both to build the generator and to recover through rates the cost of building that generator. But the PSCW's authority does not extend to unregulated affiliates of utility holding companies, nor does it apply to generation built by independent power producers unless the electricity from that project is intended to be sold to a regulated utility under a Power Purchase Agreement.

As an example, MGE built and now operates a 500 kW shared solar project located in Middleton. Even though the service is voluntary, the PSCW still needed to review the terms of service to ensure that it would not shift costs onto non-participating customers. Placed in service in January 2017, the array is fully subscribed, and MGE has a waiting list. MGE's pricing model is structured to minimize up-front costs to subscribers and instead recover the full investment through a (mostly) fixed price for the project's output. While the PSCW approved the shared solar tariff as filed, it subsequently denied MGE's request to place the array in the rate base. As a result, MGE's shareholders are footing this investment without the relatively safety of a locked-in rate of return.

Renewable Portfolio Standard (RPS)

All electric providers in Wisconsin are required to source a percentage of the electricity they sell from renewable energy resources. The renewable energy supplies vary from provider to provider, depending on how much renewable electricity they had in place before the current Renewable Portfolio Standard (2005 Act 141) was enacted. Qualifying renewable energy sources are described in Chapter 196.378 (3)(a)1m. Under the law, electric providers may bank unused renewable electricity for up to four years after the electricity was generated. They are required to demonstrate compliance with their RPS requirements in annual filings to the PSCW.

EXHIBIT 1

In their most recent compliance reports, filed in early 2016, both MGE and WPL demonstrated that they were selling more renewable electricity (including banked renewable resource credits) than is required under state law (see table below).

Electric Provider	2015 RPS Renewable Energy as Percent of 2015 Total Retail Energy Sales	2015 RPS Requirement
Madison Gas & Electric	9.99%	7.73%
Wisconsin Power & Light	11.61%	9.28%

Source: (Docket 5-GF-260, PSC REF# 285744)

Unless the law is amended, MGE's and WP&L's 2015 renewable energy requirements will remain in place for the foreseeable future. Their 2016 reports, which have already been submitted, will look very much like their 2015 reports.

Wind accounts for 63% of the required renewable electricity sold in Wisconsin in 2015, with more than two-thirds of that generation originating in neighboring states. The percentage of wind generation supplying MGE's and WPL's required supplies of renewable electricity is likely higher than the statewide average.

Renewable Energy Expansion Plans

MGE recently announced its intention to build a 66 megawatt (MW) wind power plant in Howard County, Iowa. When complete, this project would become MGE's largest source of zero-emission electricity. <https://www.mge.com/environment/green-power/wind/saratoga.htm>

For a breakdown of MGE's current electric resource mix, go to:

<https://www.mge.com/about-mge/electricity/elec-from.htm>

Alliant Energy has plans to build 500 MW of windpower into its supply mix. At this point in time, Alliant has not disclosed how much of that wind generation would serve WP&L, or whether any of the new wind turbines would be located in Wisconsin.

For a discussion on Alliant Energy's current electric resource mix (systemwide) and its plans for reducing carbon emissions, go to:

<http://www.alliantenergy.com/AboutAlliantEnergy/EnvironmentalCommitment/Sustainability/209808>

Customer-Sited Renewable Generation

Wisconsin requires regulated utilities to offer net energy billing (also known as net metering) to customers who supply themselves with renewable electricity generated on their premises. Solar electric systems up to 100 kilowatts (kW) are eligible for MGE's net metering tariff, while WP&L's ceiling is set at 20 kW). With both utilities, customer-generators offset their own usage at the customer's retail energy rate. However, for generation that exceeds consumption when the trueing up is performed, the compensation declines dramatically, to an average of approximately 3 cents/kilowatt-hour (kWh).

The vast majority of City-owned solar photovoltaic systems are interconnected to MGE under its net metered parallel generation service (Pg-2). See link below.

<https://www.mge.com/images/PDF/Electric/Rates/E57.pdf>

Interconnection

All customer-owned generation operating in parallel with the grid are subject to the interconnection standards specified in Chapter 119 of the PSC Administration Code. This Chapter divides interconnected systems based on generator size: (Category 1: ≥ 20 kW; Category 2: > 20 kW ≥ 200 kW; Category 3: > 200 kW ≥ 1 MW; Category 4: > 1 MW ≥ 15 MW). The requirements on customer-generators become more stringent for systems falling in the larger categories.

The interconnection rule was last updated in April 2004 (see link below).

https://docs.legis.wisconsin.gov/code/admin_code/psc/119.pdf

A guidelines document, developed in conjunction with the promulgation of PSC 119, can be accessed at the link below.

http://www.wisconsindr.org/library/PSC/WI_InterconnectionGuidelines.pdf

The interconnection rule does not apply to off-the-grid PV-powered loads, such as streetlights illuminating bicycle paths.

Third party-owned behind-the-meter generation

Except in areas served by cooperative electric associations, electric service in Wisconsin is a regulated activity, and those entities that provide such service to the public are treated as “public utilities.” But state law is not clear on the question of whether third party-owned systems providing power to customers behind the meter should trigger the regulation of these generators as public utilities. For the most part, solar customer generators own their PV systems. However, this uncertainty has not precluded several solar installations largely or completely owned by third parties from proceeding to completion. The most conspicuous example involves the City of Monona, which receives behind-the-meter generation from four rooftop solar electric installations owned by a third party. The PV systems serving the City of Monona were installed in 2013, and interconnected to MGE under its Pg-4 rate.

While the issue of third party financing is of keen importance to smaller nonprofit entities or entities that can’t afford the up-front costs of solar PV, the City of Madison has encountered little difficulty in financing new solar capacity through its capital budgeting process. As of this writing, the City does not host any third party-owned solar generating capacity.

Shared solar

In states that do not have strong policies for driving solar generation, some electric providers rely on the shared solar model to expand solar capacity in a cost-effective manner. Under this model, utility customers have the option to subscribe to a certain amount of the electricity they consume from a larger solar array. This may be appealing to customers who value solar but live in rental property or in a house with heavy shading from trees or nearby buildings. In most cases that subscription takes the form of an up-front payment and a fixed credit on one’s bills. As mentioned earlier, MGE instituted a shared solar program in which residential customers can source up to 50% of the electricity they consume from a utility-owned array. The program is structured around the expectation that rates for standard electric service will increase over time, and that the up-front costs of participation will be offset by future savings. Future iterations of MGE’s shared solar model may involve customers in commercial and industrial rate classes, such as the City of Madison.

Alliant Energy has not disclosed any plans to establishing a shared solar program for customers.

**RENEW Wisconsin
Docket 3270-UR-121**

**Exhibit 2
Corporate Renewable Energy Buyers' Principles**

**World Wildlife Fund
World Resources Institute**

Ex-RENEW-Vickerman-2

CORPORATE RENEWABLE ENERGY BUYERS' PRINCIPLES: INCREASING ACCESS TO RENEWABLE ENERGY



Sixty percent of the largest US businesses have set public climate and energy goals to increase their use of renewable energy.¹ Companies are setting these goals because reducing energy use and using renewable energy have become core elements of business and sustainability strategies.

Businesses are actively and successfully adding renewable energy to their own facilities and increasingly entering into contracts to buy or invest in offsite renewable energy. Even though cost-effective project opportunities currently exist, with billions of kilowatt hours still needed to meet their renewable energy goals, businesses face a variety of challenges accessing cost-effective projects on favorable terms.

The following principles frame the challenges we are facing and our common needs as large renewable energy buyers. We developed these principles to help facilitate progress on these challenges and to add our perspective to discussions underway across the country on the future of our energy and electricity system.

We hope these principles will open up new opportunities, choices and collaborations that will help businesses meet their public goals to increase the use of renewable energy.² We encourage others to join us in supporting these principles to expand and streamline the opportunities for renewable energy procurement.

IN ORDER TO MEET CUSTOMER NEEDS AND DRIVE IMPACT WE, THE ABOVE-SIGNED COMPANIES, ARE SEEKING, IN NO PARTICULAR ORDER, THE FOLLOWING FROM THE MARKETPLACE:

1 **Greater choice in our options to procure renewable energy**

It is important to have choice when selecting energy suppliers and products to meet our business and public goals.

2 **Cost competitiveness between traditional and renewable energy rates**

We know renewable energy can already achieve cost parity, or better, compared with traditional energy rates. When purchasing renewable energy directly, we would like to be able to buy renewable energy that accurately reflects the comprehensive costs and benefits to the

system. Many of us are willing to explore alternative contract arrangements (e.g., entering into long term supply arrangements with utilities and other suppliers to provide revenue certainty) that can bring down the cost of capital.

3 **Access to longer-term, fixed-price renewable energy**

A significant part of the value to us from renewable energy is the ability to lock in energy price certainty and avoid fuel price volatility. Many companies would like to have options for entering into contracts over various time periods.

FOOTNOTES

1 WWF, Ceres and Calvert Investments (2012) Power Forward: Why the World's Largest Companies are Investing in Renewable Energy.

2 These are general principles and they are not intended to limit the scope of individual company efforts to responsibly procure renewable energy.

4

Access to projects that are new or help drive new projects in order to reduce energy emissions beyond business as usual

We would like our efforts to result in new renewable power generation. Pursuant to our desire to promote new projects, ensure our purchases add new capacity to the system, and that we buy the most cost-competitive renewable energy products, we seek the following:

a. Access to bundled renewable energy products—energy and Renewable Energy Credits (RECs)

We are increasingly interested in access to bundled energy and REC products. Unbundled RECs do not deliver the same value and impact as directly procured renewable energy from a specific project or facility.

b. Ability to prevent double counting within the energy consumer community

In order to claim the benefits of our renewable energy purchases to satisfy our public goals and reduce our carbon footprint, current US rules require that we retain ownership of the RECs or that they are retired on our behalf.

Some companies find this single-instrument system creates competition between energy generators and energy users that can slow the growth of voluntary corporate renewable purchases. We welcome discussion to explore market mechanisms that enable greater voluntary growth of renewable energy while maintaining accounting integrity.

What is most critical to us is that we have the ability to add more renewable energy to the system and claim the consumption of the relevant renewable energy and GHG emission benefits while preventing another energy user from claiming consumption of the same renewable energy.

c. Renewable energy delivery from sources that are within reasonable proximity to our facilities

Where possible, we would like to procure renewable energy from projects near our operations and/or on the regional energy grids that supply our facilities so our efforts benefit local economies and communities as well as enhance the resilience and security of the local grid.

5

Increased access to third-party financing vehicles as well as standardized and simplified processes, contracts and financing for renewable energy projects

To access renewable energy at the competitive prices and scale we need to meet our goals, many companies are financing and/or procuring renewable energy through third-party providers using power purchase agreements (PPAs) and/or lease arrangements. Increasing access to these types of effective and affordable financing tools is critical.

Initially, for some companies, these processes can be complex and costly since they are outside of their core business functions. Simplifying and standardizing policies, permitting, incentives and other processes for direct procurement are high priorities for many companies.

6

Opportunities to work with utilities and regulators to expand our choices for buying renewable energy

Procuring renewable energy in partnership with our local utilities may be a more efficient and cost-effective option. We welcome the opportunity to work with local utilities to design and develop innovative programs and products that meet our needs as well as those of our energy suppliers. In such collaborations, we would seek renewable energy products and programs that address the above principles and that

a. fairly share the costs and benefits of renewable energy procurement

We seek to purchase renewable energy that reflects the net costs and benefits to the system, including the actual cost of procurement and benefits, such as, but not limited to, avoided energy and capacity benefits, without impacting other rate payers.

b. apply to new and existing load

To meet our public goals, we need renewable energy for both new and existing operations.

CORPORATE RENEWABLE ENERGY BUYERS' PRINCIPLES: INCREASING ACCESS TO RENEWABLE ENERGY

These principles have emerged through discussions between the participating companies convened by WWF and WRI. The companies identified common challenges to meeting their renewable energy goals and proposed establishing these principles. They worked together, facilitated by their NGO partners, with the goal of clearly communicating to the market the renewable energy products they would like to buy.

For more information or if your organization is interested in joining the principles, please visit www.buyersprinciples.org or contact:

Bryn Baker – bryn.baker@wwfus.org

Priya Barua – pbarua@wri.org



WWF is an organization dedicated to stopping the degradation of the planet's natural environment and building future in which humans live in harmony with nature. WWF achieves this mission through innovative partnerships that combine on-the-ground conversation, high-level policy and advocacy and work to make business and industry more sustainable. This work includes engagements with hundreds of companies across a range of sustainability issues, including our Climate Savers program and facilitation of the Corporate Renewable Energy Buyers' Group, which produced these principles.



WORLD
RESOURCES
INSTITUTE

The **World Resources Institute (WRI)** is a global research organization that spans more than 50 countries, with offices in the United States, China, India, Brazil, Europe, and Indonesia. Our 450 experts work closely with leaders to turn **big ideas into action** to sustain a healthy environment—the foundation of economic opportunity and human well-being. We focus on six urgent global challenges: food, forests, water, climate, energy and cities & transport.

Metro Transit
Madison



Vehicle Listing as of: 03/15/2017

Vehicle #	Type	Year	Make	Seating	VIN #	Value	Add Date
0001	Bus	2007	GILLIG HYB	38	15GGD301371077083	\$ 588,634.00	8/27/2007
0002	Bus	2007	GILLIG HYB	38	15GGD301571077084	\$ 588,634.00	8/27/2007
0003	Bus	2007	GILLIG HYB	38	15GGD301771077085	\$ 588,634.00	8/27/2007
0004	Bus	2007	GILLIG HYB	38	15GGD301971077086	\$ 588,634.00	8/27/2007
0005	Bus	2007	GILLIG HYB	38	15GGD301071077087	\$ 588,634.00	8/27/2007
0006	Bus	2010	GILLIG HYB	35	15GGD3016A1178285	\$ 588,634.00	8/27/2007
0007	Bus	2010	GILLIG HYB	35	15GGD3018A1178286	\$ 588,634.00	7/6/2010
0008	Bus	2010	GILLIG HYB	35	15GGD301XA1178287	\$ 588,634.00	7/6/2010
0009	Bus	2010	GILLIG HYB	35	15GGD3011A1178288	\$ 588,634.00	7/12/2010
0010	Bus	1934	YELLOW	16	709-43	\$ -	7/9/2010
0010	Bus	2010	GILLIG HYB	35	15GGD3013A1178289	\$ 588,634.00	7/9/2010
0011	Bus	2010	GILLIG HYB	35	15GGD301XA1178290	\$ 588,634.00	7/13/2010
0012	Bus	2010	GILLIG HYB	35	15GGD3011A1178291	\$ 588,634.00	7/13/2010
0013	Bus	2010	GILLIG HYB	35	15GGD3013A1178292	\$ 588,634.00	7/13/2010
0014	Bus	2010	GILLIG HYB	35	15GGD3015A1178293	\$ 588,634.00	7/13/2010
0015	Bus	2010	GILLIG HYB	35	15GGD03017A1178294	\$ 588,634.00	7/19/2010
0016	Bus	2010	GILLIG HYB	35	15GGD3019A1178295	\$ 588,634.00	7/19/2010
0017	Bus	2010	GILLIG HYB	35	15GGD3010A1178296	\$ 588,634.00	7/19/2010
0018	Bus	2010	GILLIG HYB	35	15GGD3012A1178297	\$ 588,634.00	7/21/2010
0019	Bus	2010	GILLIG HYB	35	15GGD3014A1178298	\$ 588,634.00	7/21/2010
0020	Bus	2014	GILLIG HYB	35	15GGD3010E1183889	\$ 588,634.00	1/16/2014
0021	Bus	2014	GILLIG HYB	35	15GGD3017E1183890	\$ 588,634.00	1/16/2014
0100	Bus	2014	GILLIG L/F	35	15GGD2710D1183888	\$ 416,452.00	1/6/2014
0101	Bus	2015	GILLIG L/F	35	15GGD2711F1184986	\$ 416,452.00	5/26/2015
0102	Bus	2015	GILLIG L/F	35	15GGD2713F1184987	\$ 416,452.00	5/8/2015
0103	Bus	2015	GILLIG L/F	35	15GGD2715F1184988	\$ 416,452.00	5/8/2015
0104	Bus	2015	GILLIG L/F	35	15GGD2717F1184989	\$ 416,452.00	5/8/2015
0105	Bus	2015	GILLIG L/F	35	15GGD2713F1184990	\$ 416,452.00	5/12/2015
0106	Bus	2015	GILLIG L/F	35	15GGD2715F1184991	\$ 416,452.00	5/12/2015
0107	Bus	2015	GILLIG L/F	35	15GGD2717F1184992	\$ 416,452.00	5/15/2015
0108	Bus	2015	GILLIG L/F	35	15GGD2719F1184993	\$ 416,452.00	5/15/2015
0109	Bus	2015	GILLIG L/F	35	15GGD2710F1184994	\$ 416,452.00	5/15/2015
0110	Bus	2015	GILLIG L/F	35	15GGD2712F1184995	\$ 416,452.00	5/26/2015
0111	Bus	2015	GILLIG L/F	35	15GGD2714F1184996	\$ 416,452.00	5/26/2015
0112	Bus	2015	GILLIG L/F	35	15GGD2716F1184997	\$ 416,452.00	5/26/2015
0113	Bus	2015	GILLIG L/F	35	15GGD2718F1184998	\$ 416,452.00	5/26/2015
0114	Bus	2015	GILLIG L/F	35	15GGD2711F1184999	\$ 416,452.00	5/26/2015
0115	Bus	2015	GILLIG L/F	35	15GGD2710F1185000	\$ 416,452.00	5/26/2015
0116	Bus	2016	Gillig	35	15GGD2710G1187539	\$ 431,703.00	6/23/2016
0117	Bus	2016	Gillig	35	15GGD2717G1187540	\$ 431,703.00	6/27/2016
0118	Bus	2016	Gillig	35	15GGD2719G1187541	\$ 431,703.00	6/27/2016
0119	Bus	2016	Gillig	35	15GGD2710G1187542	\$ 431,703.00	6/27/2016
0120	Bus	2016	Gillig	35	15GGD2710G1187542	\$ 431,703.00	6/27/2016
0121	Bus	2016	Gillig	35	15GGD2716G1187545	\$ 431,703.00	6/30/2016
0122	Bus	2016	Gillig	35	15GGD2714G1187544	\$ 431,703.00	6/30/2016
0123	Bus	2016	Gillig	35	15GGD2718G1187546	\$ 431,703.00	7/5/2016
0124	Bus	2016	Gillig	35	15GGD271XG1187547	\$ 431,703.00	7/5/2016

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0125	Bus	2016	Gillig	35	15GGD2711G1187548	\$ 431,703.00	7/5/2016
0126	Bus	2016	Gillig	35	15GGD2713G1187549	\$ 431,703.00	7/6/2016
0127	Bus	2016	Gillig	35	15GGD271XG1187550	\$ 431,703.00	7/6/2016
0128	Bus	2016	Gillig	35	15GGD2711G1187551	\$ 431,703.00	7/18/2016
0129	Bus	2016	Gillig	35	15GGD2713G1187552	\$ 431,703.00	7/18/2016
0130	Bus	2016	Gillig	35	15GGD2715G1187553	\$ 431,703.00	7/18/2016
0755	Paratransit v	2010	ARBOC	6	1GB9G5A68A1105338	\$ 131,240.00	12/17/2009
0756	Paratransit v	2010	ARBOC	6	1GB9G5A64A1105160	\$ 131,240.00	12/17/2009
0757	Paratransit v	2010	ARBOC	6	1GB9G5A64A1105479	\$ 131,240.00	12/17/2009
0758	Paratransit v	2010	ARBOC	6	1GB9G5A6641105886	\$ 131,240.00	12/17/2009
0759	Paratransit v	2013	GMC GLAVAL	10	1GB6G5BL7D1110400	\$ 131,240.00	1/1/2013
0760	Paratransit v	2013	GMC GLAVAL	10	1GB6G5BL7D1111059	\$ 131,240.00	1/1/2013
0761	Paratransit v	2013	GMC GLAVAL	10	1GB6G5BL3D1110586	\$ 131,240.00	1/1/2013
0762	Paratransit v	2013	GMC GLAVAL	10	1GB6G5BL2D1110093	\$ 131,240.00	1/1/2013
0763	Paratransit v	2013	GMC GLAVAL	10	1GB6G5BLXD1110259	\$ 131,240.00	1/1/2013
0764	Paratransit v	2013	GMC GLAVAL	10	1GB6G5BL6D1110159	\$ 131,240.00	1/1/2013
0765	Paratransit v	2013	GMC GLAVAL	10	1GB6G5BL6D1112218	\$ 131,240.00	1/1/2013
0766	Paratransit v	2013	GMC GLAVAL	10	1GB6G5BL6D1115202	\$ 131,240.00	8/2/2013
0767	Paratransit v	2013	GMC GLAVAL	10	1GB6G5BL4D1113920	\$ 131,240.00	1/10/2013
0768	Paratransit v	2013	CHEVY GLAVAL	10	1GB6G5BL5D1115420	\$ 131,240.00	1/14/2013
0769	Paratransit v	2013	CHEVY GLAVAL	10	1GB6G5BL2D1115164	\$ 131,240.00	1/10/2013
0770	Paratransit v	2013	CHEVY GLAVAL	10	1GB6G5BL5D1113649	\$ 131,240.00	2/5/2013
0771	Paratransit v	2013	CHEVY GLAVAL	10	1GB6G5BL4D1115134	\$ 131,240.00	2/5/2013
0810	Bus	2000	NEW FLYER	39	5FYD2LP07YU021032	\$ 416,452.00	9/19/2000
0813	Bus	2000	NEW FLYER	39	5FYD2LP02YU021035	\$ 416,452.00	9/11/2000
0831	Bus	2001	NEW FLYER	38	5FYD2LP011U022375	\$ 416,452.00	6/12/2001
0836	Bus	2001	NEW FLYER	38	5FYD2LP051U022380	\$ 416,452.00	6/18/2001
0837	Bus	2001	NEW FLYER	38	5FYD2LP071U022381	\$ 416,452.00	6/12/2001
0838	Bus	2001	NEW FLYER	38	5FYD2LP071U022382	\$ 416,452.00	6/12/2001
0840	Bus	2001	NEW FLYER	38	5FYD2LP021U022384	\$ 416,452.00	6/18/2001
0841	Bus	2001	NEW FLYER	38	5FYD2LP041U022385	\$ 416,452.00	6/12/2001
0843	Bus	2001	NEW FLYER	38	5FYD2LP081U022387	\$ 416,452.00	6/21/2001
0844	Bus	2001	NEW FLYER	38	5FYD2LP0X1U022388	\$ 416,452.00	6/18/2001
0846	Bus	2002	NEW FLYER	38	5FYD2LU072U023777	\$ 416,452.00	3/28/2002
0847	Bus	2002	NEW FLYER	38	5FYD2LU092U023778	\$ 416,452.00	3/28/1902
0848	Bus	2002	NEW FLYER	38	5FYD2LU002U023779	\$ 416,452.00	3/28/2002
0850	Bus	2002	NEW FLYER	38	5FYD2LU092U023781	\$ 416,452.00	3/28/2002
0851	Bus	2002	NEW FLYER	38	5FYD2LU002U023782	\$ 416,452.00	3/28/2002
0852	Bus	2002	NEW FLYER	38	5FYD2LU022U023783	\$ 416,452.00	3/28/2002
0853	Bus	2002	NEW FLYER	38	5FYD2LU042U023784	\$ 416,452.00	3/28/2002
0854	Bus	2002	NEW FLYER	38	5FYD2LU062U023785	\$ 416,452.00	3/28/2002
0855	Bus	2002	NEW FLYER	38	5FYD2LU082U023786	\$ 416,452.00	3/28/2002
0856	Bus	2002	NEW FLYER	38	5FYD2LU0X2U023787	\$ 416,452.00	3/28/2002
0857	Bus	2002	NEW FLYER	38	5FYD2LU012U023788	\$ 416,452.00	3/28/2002
0858	Bus	2002	NEW FLYER	38	5FYD2LU032U023789	\$ 416,452.00	3/28/2002
0859	Bus	2002	NEW FLYER	38	5FYD2LU0X2U023790	\$ 416,452.00	3/28/2002
0860	Bus	2002	NEW FLYER	38	5FYD2LU012U023791	\$ 416,452.00	3/28/2002
0861	Bus	2003	NEW FLYER	38	5FYD2LP032U024582	\$ 416,452.00	1/20/2003
0862	Bus	2003	NEW FLYER	38	2FYD2LP052U024583	\$ 416,452.00	1/20/2003
0863	Bus	2003	NEW FLYER	38	5FYD2LP072U024584	\$ 416,452.00	1/20/2003
0864	Bus	2003	NEW FLYER	38	5FYD2LP092U024585	\$ 416,452.00	1/20/2003

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0865	Bus	2003	NEW FLYER	38	5FYD2LP002U024586	\$ 416,452.00	1/20/2003
0866	Bus	2003	NEW FLYER	38	5FYD2LP022U024587	\$ 416,452.00	1/20/2003
0867	Bus	2003	NEW FLYER	38	5FYD2LP042U024588	\$ 416,452.00	1/20/2003
0868	Bus	2003	NEW FLYER	38	5FYD2LP062U024589	\$ 416,452.00	1/20/2003
0869	Bus	2003	NEW FLYER	38	5FYD2LP022U024590	\$ 416,452.00	1/20/2003
0870	Bus	2003	NEW FLYER	38	5FYD2LP042U024591	\$ 416,452.00	1/20/2003
0871	Bus	2003	NEW FLYER	38	5FYD2LP062U024592	\$ 416,452.00	1/20/2003
0872	Bus	2003	NEW FLYER	38	5FYD2LP082U024593	\$ 416,452.00	1/20/2003
0873	Bus	2003	NEW FLYER	38	5FYD2LP0X2U024594	\$ 416,452.00	1/20/2003
0874	Bus	2003	NEW FLYER	38	5FYD2LP012U024595	\$ 416,452.00	2/7/2003
0875	Bus	2003	NEW FLYER	38	5FYD2LP032U024596	\$ 416,452.00	1/20/2003
0876	Bus	2004	GILLIG L/F	38	15GGD291041074408	\$ 416,452.00	2/3/2004
0877	Bus	2004	GILLIG L/F	38	15GGD291241074409	\$ 416,452.00	4/2/2004
0878	Bus	2004	GILLIG L/F	38	15GGD291941074410	\$ 416,452.00	4/2/2004
0879	Bus	2004	GILLIG L/F	38	15GGD291041074411	\$ 416,452.00	4/2/2004
0880	Bus	2004	GILLIG L/F	38	15GGD291241074412	\$ 416,452.00	4/2/2004
0881	Bus	2004	GILLIG L/F	38	15GGD291441074413	\$ 416,452.00	4/2/2004
0882	Bus	2004	GILLIG L/F	38	15GGD291641074414	\$ 416,452.00	4/2/2004
0883	Bus	2004	GILLIG L/F	38	15GGD291841074415	\$ 416,452.00	4/2/2004
0884	Bus	2004	GILLIG L/F	38	15GGD291X41074416	\$ 416,452.00	4/2/2004
0885	Bus	2004	GILLIG L/F	38	15GGD291141074417	\$ 416,452.00	4/19/2004
0886	Bus	2004	GILLIG L/F	38	15GGD291341074418	\$ 416,452.00	4/19/2004
0887	Bus	2004	GILLIG L/F	38	15GGD291541074419	\$ 416,452.00	4/19/2004
0888	Bus	2004	GILLIG L/F	38	15GGD291141074420	\$ 416,452.00	4/19/2004
0889	Bus	2004	GILLIG L/F	38	15GGD291341074421	\$ 416,452.00	4/19/2004
0890	Bus	2004	GILLIG L/F	38	15GGD291541074422	\$ 416,452.00	4/19/2004
0891	Bus	2005	GILLIG L/F	38	15GGD291241074765	\$ 416,452.00	2/1/2005
0892	Bus	2005	GILLIG L/F	38	15GGD291441074766	\$ 416,452.00	2/1/2005
0893	Bus	2005	GILLIG L/F	38	15GGD291641074767	\$ 416,452.00	2/1/2005
0894	Bus	2005	GILLIG L/F	38	15GGD291841074768	\$ 416,452.00	2/2/2005
0895	Bus	2005	GILLIG L/F	38	15GGD291X41074769	\$ 416,452.00	2/2/2005
0896	Bus	2005	GILLIG L/F	38	15GGD291641074770	\$ 416,452.00	2/2/2005
0897	Bus	2005	GILLIG L/F	38	15GGD291651074771	\$ 416,452.00	2/2/2005
0898	Bus	2005	GILLIG L/F	38	15GGD291851074772	\$ 416,452.00	2/2/2005
0899	Bus	2005	GILLIG L/F	38	15GGD291X51074773	\$ 416,452.00	2/2/2005
0900	Bus	2005	GILLIG L/F	38	15GGD291151074774	\$ 416,452.00	2/2/2005
0901	Bus	2005	GILLIG L/F	38	15GGD291351074775	\$ 416,452.00	2/2/2005
0902	Bus	2005	GILLIG L/F	38	15GGD291551074776	\$ 416,452.00	2/2/2005
0903	Bus	2005	GILLIG L/F	38	15GGD291751074777	\$ 416,452.00	2/2/2005
0904	Bus	2005	GILLIG L/F	38	15GGD291951074778	\$ 416,452.00	2/2/2005
0905	Bus	2005	GILLIG L/F	38	15GGD291051074779	\$ 416,452.00	2/2/2005
0906	Bus	2006	GILLIG L/F	38	15GGD291661076389	\$ 416,452.00	6/14/2006
0907	Bus	2006	GILLIG L/F	38	15GGD291261076390	\$ 416,452.00	6/14/2006
0908	Bus	2006	GILLIG L/F	38	15GGD291461076391	\$ 416,452.00	6/14/2006
0909	Bus	2006	GILLIG L/F	38	15GGD291661076392	\$ 416,452.00	6/14/2006
0910	Bus	2006	GILLIG L/F	38	15GGD291861076393	\$ 416,452.00	6/14/2006
0911	Bus	2006	GILLIG L/F	38	15GGD291X61076394	\$ 416,452.00	6/14/2006
0912	Bus	2006	GILLIG L/F	38	15GGD291161076395	\$ 416,452.00	6/14/2006
0913	Bus	2006	GILLIG L/F	38	15GGD291361076396	\$ 416,452.00	6/14/2006
0914	Bus	2006	GILLIG L/F	38	15GGD291561076397	\$ 416,452.00	6/14/2006
0915	Bus	2006	GILLIG L/F	38	15GGD291761076398	\$ 416,452.00	6/14/2006

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0916	Bus	2006	GILLIG L/F	38	15GGD291961076399	\$ 416,452.00	6/14/2006
0917	Bus	2006	GILLIG L/F	38	15GGD291161076400	\$ 416,452.00	6/14/2006
0918	Bus	2006	GILLIG L/F	38	15GGD291361076401	\$ 416,452.00	6/14/2006
0919	Bus	2006	GILLIG L/F	38	15GGD291561076402	\$ 416,452.00	6/14/2006
0920	Bus	2006	GILLIG L/F	38	15GGD291761076403	\$ 416,452.00	6/14/2006
0921	Bus	2006	GILLIG L/F	38	15GGD291961076404	\$ 416,452.00	6/14/2006
0922	Bus	2008	GILLIG L/F	38	15GGD271881176032	\$ 416,452.00	3/9/2009
0923	Bus	2009	GILLIG L/F	38	15GGD271891176033	\$ 416,452.00	3/9/2009
0924	Bus	2009	GILLIG L/F	38	15GGD27X901176034	\$ 416,452.00	3/9/2009
0925	Bus	2009	GILLIG L/F	38	15GGD271191176035	\$ 416,452.00	3/9/2009
0926	Bus	2009	GILLIG L/F	38	15GGD271391176036	\$ 416,452.00	3/9/2009
0927	Bus	2009	GILLIG L/F	38	15GGD271591176037	\$ 416,452.00	3/9/2009
0928	Bus	2009	GILLIG L/F	38	15GGD271791176038	\$ 416,452.00	3/9/2009
0929	Bus	2009	GILLIG L/F	38	15GGD271991176039	\$ 416,452.00	3/9/2009
0930	Bus	2009	GILLIG L/F	38	15GGD271591176040	\$ 416,452.00	3/9/2009
0931	Bus	2009	GILLIG L/F	38	15GGD271791176041	\$ 416,452.00	3/9/2009
0932	Bus	2009	GILLIG L/F	38	15GGD271991176042	\$ 416,452.00	3/9/2009
0933	Bus	2009	GILLIG L/F	38	15GGD271091176043	\$ 416,452.00	3/9/2009
0934	Bus	2009	GILLIG L/F	38	15GGD271291176044	\$ 416,452.00	3/9/2009
0935	Bus	2009	GILLIG L/F	38	15GGD271491176045	\$ 416,452.00	3/9/2009
0936	Bus	2009	GILLIG L/F	38	15GGD271691176046	\$ 416,452.00	3/9/2009
0937	Bus	2009	GILLIG L/F	38	15GGD271891176047	\$ 416,452.00	3/9/2009
0938	Bus	2009	GILLIG L/F	38	15GGD271X91176048	\$ 416,452.00	3/9/2009
0939	Bus	2009	GILLIG L/F	38	15GGD271191176049	\$ 416,452.00	3/9/2009
0940	Bus	2009	GILLIG L/F	38	15GGD271191176050	\$ 416,452.00	3/9/2009
0941	Bus	2009	GILLIG L/F	38	15GGD271X91176051	\$ 416,452.00	3/9/2009
0942	Bus	2009	GILLIG L/F	38	15GGD271191176052	\$ 416,452.00	3/9/2009
0943	Bus	2009	GILLIG L/F	38	15GGD271391176053	\$ 416,452.00	3/9/2009
0944	Bus	2009	GILLIG L/F	38	15GGD271491176112	\$ 416,452.00	6/25/2009
0945	Bus	2009	GILLIG L/F	38	15GGD271691176113	\$ 416,452.00	6/25/2009
0946	Bus	2009	GILLIG L/F	38	15GGD271891176114	\$ 416,452.00	6/25/2009
0947	Bus	2009	GILLIG L/F	38	15GGD271X91176115	\$ 416,452.00	6/25/2009
0948	Bus	2009	GILLIG L/F	38	15GGD271191176116	\$ 416,452.00	6/25/2009
0949	Bus	2009	GILLIG L/F	38	15GGD271391176117	\$ 416,452.00	6/25/2009
0950	Bus	2009	GILLIG L/F	38	15GGD271591176118	\$ 416,452.00	6/25/2009
0951	Bus	2009	GILLIG L/F	38	15GGD271791176119	\$ 416,452.00	6/25/2009
0952	Bus	2009	GILLIG L/F	38	15GGD271391176120	\$ 416,452.00	6/25/2009
0953	Bus	2009	GILLIG L/F	38	15GGD271591176121	\$ 416,452.00	6/25/2009
0954	Bus	2009	GILLIG L/F	38	15GGD271791176122	\$ 416,452.00	6/25/2009
0955	Bus	2011	GILLIG L/F	38	15GGD2716B1180104	\$ 416,452.00	10/10/2011
0956	Bus	2011	GILLIG L/F	38	15GGD2718B1180105	\$ 416,452.00	10/10/2011
0957	Bus	2011	GILLIG L/F	38	15GGD271XB1180106	\$ 416,452.00	10/10/2011
0958	Bus	2011	GILLIG L/F	38	15GGD2711B1180107	\$ 416,452.00	10/10/2011
0959	Bus	2011	GILLIG L/F	38	15GGD2713B1180108	\$ 416,452.00	10/10/2011
0960	Bus	2011	GILLIG L/F	38	15GGD2715B1180109	\$ 416,452.00	10/10/2011
0961	Bus	2011	GILLIG L/F	38	15GGD2711B1180110	\$ 416,452.00	10/10/2011
0962	Bus	2011	GILLIG L/F	38	15GGD2713B1180111	\$ 416,452.00	10/10/2011
0963	Bus	2011	GILLIG L/F	38	15GGD2715B1180112	\$ 416,452.00	10/10/2011
0964	Bus	2011	GILLIG L/F	38	15GGD2717B1180113	\$ 416,452.00	10/10/2011
0965	Bus	2011	GILLIG L/F	38	15GGD2719B1180114	\$ 416,452.00	10/10/2011
0966	Bus	2011	GILLIG L/F	38	15GGD2710B1180115	\$ 416,452.00	10/10/2011

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0967	Bus	2011	GILLIG L/F	38	15GGD2712B1180116	\$ 416,452.00	10/10/2011
0968	Bus	2011	GILLIG L/F	38	15GGD2714B1180117	\$ 416,452.00	10/10/2011
0969	Bus	2012	GILLIG L/F	38	15GGD2714C1180877	\$ 416,452.00	7/3/2012
0970	Bus	2012	GILLIG L/F	38	15GGD2716C1180878	\$ 416,452.00	7/3/2012
0971	Bus	2012	GILLIG L/F	38	15GGD2718C1180879	\$ 416,452.00	7/3/2012
0972	Bus	2012	GILLIG L/F	38	15GGD2714C1180880	\$ 416,452.00	7/3/2012
0973	Bus	2012	GILLIG L/F	38	15GGD2716C1180881	\$ 416,452.00	7/3/2012
0974	Bus	2012	GILLIG L/F	38	15GGD2718C1180882	\$ 416,452.00	7/3/2012
0975	Bus	2012	GILLIG L/F	38	15GGD271XC1180883	\$ 416,452.00	7/3/2012
0976	Bus	2012	GILLIG L/F	38	15GGD2711C1180884	\$ 416,452.00	7/3/2012
0977	Bus	2012	GILLIG L/F	38	15GGD2713C1180885	\$ 416,452.00	7/3/2012
0978	Bus	2012	GILLIG L/F	38	15GGD2715C1180886	\$ 416,452.00	7/3/2012
0979	Bus	2012	GILLIG L/F	38	15GGD2717C1180887	\$ 416,452.00	7/3/2012
0980	Bus	2012	GILLIG L/F	38	15GGD2719C1180888	\$ 416,452.00	7/3/2012
0981	Bus	2012	GILLIG L/F	38	15GGD2710C1180889	\$ 416,452.00	7/3/2012
0982	Bus	2012	GILLIG L/F	38	15GGD2717C1180890	\$ 416,452.00	7/10/2012
0983	Bus	2014	GILLIG L/F	35	15GGD2715D1183871	\$ 416,452.00	12/9/2013
0984	Bus	2014	GILLIG L/F	35	15GGD2717D1183872	\$ 416,452.00	12/9/2013
0985	Bus	2014	GILLIG L/F	35	15GGD2719D1183873	\$ 416,452.00	12/10/2013
0986	Bus	2014	GILLIG L/F	35	15GGD2710D1183874	\$ 416,452.00	12/27/2013
0987	Bus	2014	GILLIG L/F	35	15GGD2712D1183875	\$ 416,452.00	12/11/2013
0988	Bus	2014	GILLIG L/F	35	15GGD2714D1183876	\$ 416,452.00	12/20/2013
0989	Bus	2014	GILLIG L/F	35	15GGD2716D1183877	\$ 416,452.00	12/16/2013
0990	Bus	2014	GILLIG L/F	35	15GGD2718D1183878	\$ 416,452.00	12/16/2013
0991	Bus	2014	GILLIG L/F	35	15GGD271XD1183879	\$ 416,452.00	12/16/2013
0992	Bus	2014	GILLIG L/F	35	15GGD2716D1183880	\$ 416,452.00	12/16/2013
0993	Bus	2014	GILLIG L/F	35	15GGD2718D1183881	\$ 416,452.00	12/16/2013
0994	Bus	2014	GILLIG L/F	35	15GGD271XD1183882	\$ 416,452.00	12/26/2013
0995	Bus	2014	GILLIG L/F	35	15GGD2711D1183883	\$ 416,452.00	12/26/2013
0996	Bus	2014	GILLIG L/F	35	15GGD2713D1183884	\$ 416,452.00	12/27/2013
0997	Bus	2014	GILLIG L/F	35	15GGD2715D1183885	\$ 416,452.00	1/2/2014
0998	Bus	2014	GILLIG L/F	35	15GGD2717D1183886	\$ 416,452.00	1/9/2014
0999	Bus	2014	GILLIG L/F	35	15GGD2719D1183887	\$ 416,452.00	1/2/2014
6650	Staff car	2016	Ford F-350	3	1FTRF3BT6GEB26164	\$ 38,873.00	1/4/2016
6657	Staff car	1999	FORD TRUCK	4	1FDXF475XEC22296	\$ 34,393.00	12/9/1998
6658	Staff car	2000	FORD F450	2	1FDXF474YEA80606	\$ 39,729.00	12/15/1999
6664	Staff car	2002	FORD RANGER	6	1FTZR15E03PA31932	\$ 19,447.00	11/20/2002
6665	Staff car	2002	FORD F450	3	1FDXX47F23EB30778	\$ 45,736.00	12/31/2002
6666	Staff car	2002	FORD F450	3	1FDXF47F53EB16005	\$ 45,539.00	12/9/2002
6667	Staff car	2002	FORD F450	3	1FDXF47F33EB16004	\$ 40,788.00	12/31/2002
6668	Staff car	2008	CHEVROLET	7	1GNDU23W98D209007	\$ 15,816.00	10/28/2008
6669	Staff car	2009	PONTIAC	5	5Y2SP67859Z461092	\$ 16,151.00	12/1/2008
6670	Staff car	2009	PONTIAC	5	5Y2SP67879Z461093	\$ 16,151.00	12/1/2008
6671	Staff car	2009	PONTIAC	5	5Y2SP67809Z461419	\$ 16,151.00	12/1/2008
6673	Staff car	2009	PONTIAC	5	5Y2SP67869Z461747	\$ 16,151.00	12/1/2008
6674	Staff car	2009	PONTIAC	5	5Y2SP67849Z462072	\$ 16,151.00	12/1/2008
6675	Staff car	2009	PONTIAC	5	5Y2SP67869Z462073	\$ 16,151.00	12/1/2008
6676	Staff car	2009	PONTIAC	5	5Y2SP67869Z462400	\$ 16,151.00	12/1/2008
6677	Staff car	2009	PONTIAC	5	5Y2SP67889Z462401	\$ 16,151.00	12/1/2008
6678	Staff car	2012	CHEVROLET	4	1GCJTBFEC8169534	\$ 24,000.00	9/21/2012
6679	Staff car	2012	CHEVROLET	4	1GCJTBFEC8169039	\$ 24,000.00	9/21/2012

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6680	Staff car	2009	FORD F450	4	1FDXF4HR4AEA82693	\$ 79,255.00	1/6/2010
6681	Staff car	2010	FORD F450	4	1FDUF4HTXBEB57798	\$ 52,734.00	8/14/2012
6682	Staff car	2012	FORD F350	3	1FTRF38TXCEC99454	\$ 41,247.00	1/7/2013
6683	Staff car	2013	CHRYSLER	5	1C3CCBAB8DN721857	\$ 18,427.00	7/12/2013
6684	Staff car	2013	CHRYSLER	5	1C3CCBABXDN721858	\$ 18,427.00	7/12/2013
6685	Staff car	2014	FORD FOCUS	4	1FADP3K26EL336566	\$ 16,362.00	7/16/2014
6686	Staff car	2014	FORD FOCUS	4	1FADP3K22EL336564	\$ 16,362.00	7/16/2014
6687	Staff car	2014	FORD FOCUS	4	1FADP3K24EL336565	\$ 16,361.00	7/16/2014
6688	Staff car	2016	FORD ESCAPE	5	1FMCU9G96GUB00483	\$ 23,399.00	10/15/2015
6689	Staff car	2016	Ford Explorer	6	1FM5K8ARSHGA13353	\$ 26,271.00	7/18/2016

Total # of Vehicles: 261

Total Vehicle Value: \$ 96,379,221.00

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Domicile facility MMT

Vehicle	Facility	Distance in period	LTD End of period	Propulsion fuel Qty	Rate	Oil Qty	Rate	Coolant Qty	Rate	Trans FI Qty	Rate	DEF Qty	Rate
			<i>Mileage</i>	<i>Fuel mileage</i>									
Fixed route revenue vehicle													
GILLIG HYBRID													
001	MMT	211,206	383,006	38651.8	5.5	147.5	1432	457.8	461	0.0		0.0	
002	MMT	201,100	340,040	39594.4	5.1	142.9	1407	285.1	705	0.0		0.0	
003	MMT	206,018	362,507	40239.5	5.1	123.6	1667	169.1	1218	0.0		0.0	
004	MMT	188,807	309,695	39709.2	4.8	123.7	1526	598.9	315	0.0		0.0	
005	MMT	189,483	322,486	42911.2	4.4	59.8	3169	338.8	559	0.0		0.0	
006	MMT	288,862	313,457	52117.0	5.5	49.5	5836	87.8	3290	0.0		175.3	1648
007	MMT	262,660	291,116	47906.1	5.5	43.4	6052	136.3	1927	0.0		247.6	1061
008	MMT	263,250	290,814	47717.9	5.5	16.5	15955	150.5	1749	0.0		143.4	1836
009	MMT	273,283	298,762	48957.4	5.6	6.1	44800	184.9	1478	0.0		117.7	2322
010	MMT	289,646	315,998	51805.7	5.6	5.0	57929	167.4	1730	0.0		222.8	1300
011	MMT	287,793	317,205	51133.2	5.6	31.9	9022	208.1	1383	0.0		290.5	991
012	MMT	289,798	316,545	52917.0	5.5	6.9	42000	189.6	1528	0.0		114.3	2535
013	MMT	285,387	312,135	51351.8	5.6	27.2	10492	157.7	1810	0.0		321.6	887
014	MMT	291,095	315,655	53476.3	5.4	7.2	40430	204.1	1426	0.0		154.0	1890
015	MMT	305,919	333,030	55135.0	5.5	4.8	63733	252.7	1211	0.0		321.1	953
016	MMT	290,202	320,797	53672.0	5.4	1.0	290202	123.4	2352	0.0		174.5	1663
017	MMT	238,052	264,732	42887.4	5.6	6.0	39675	222.8	1068	0.0		180.2	1321
018	MMT	270,520	295,059	50971.5	5.3	1.4	193229	169.8	1593	0.0		170.6	1586
019	MMT	293,401	320,809	53220.2	5.5	54.8	5354	419.9	699	0.0		303.3	967
020	MMT	143,596	146,055	26797.1	5.4	1.9	75577	223.0	644	0.0		315.8	455
021	MMT	149,369	151,518	27314.0	5.5	0.0		136.4	1095	0.0		348.2	429

GILLIG HYBRID

Totals	5,219,447	6,321,421	968,485.8		861.1		4,884.1		0.0		3,600.7		
Avg/Aggregates	248,545	301,020		5.4		6,061		1,069		0		1,450	

GILLIG-LF

100	MMT	152,541	154,641	30840.3	4.9	46.0	3316	185.8	821	0.0		365.6	417
101	MMT	102,825	104,925	19850.8	5.2	8.9	11553	204.4	503	0.0		432.7	238
102	MMT	70,200	72,300	13713.6	5.1	12.7	5528	79.6	882	0.0		175.3	401
103	MMT	112,734	114,834	21805.2	5.2	14.7	7669	125.9	895	0.0		461.3	244
104	MMT	109,861	111,961	21192.8	5.2	11.6	9471	141.1	779	0.0		459.1	239
105	MMT	105,101	107,170	20317.3	5.2	21.3	4934	137.5	764	0.0		434.1	242
106	MMT	110,135	112,368	21136.6	5.2	12.5	8811	118.3	931	0.0		469.6	235
107	MMT	111,567	114,117	21134.7	5.3	7.9	14122	109.0	1024	0.0		427.9	261
108	MMT	108,546	110,791	20739.0	5.2	7.9	13740	132.5	819	0.0		428.0	254
109	MMT	107,836	110,088	20611.8	5.2	18.1	5958	112.2	961	1.4	77026	422.7	255

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Domicile facility MMT

Vehicle	Facility	Distance in period	LTD End of period	Propulsion fuel Qty	Rate	Oil Qty	Rate	Coolant Qty	Rate	Trans Fl Qty	Rate	DEF Qty	Rate
Fixed route revenue vehicle													
GILLIG-LF													
110	MMT	106,369	108,581	20287.2	5.2	14.5	7336	111.9	951	0.0		392.5	271
111	MMT	100,442	102,621	19655.6	5.1	36.1	2782	115.8	867	0.0		332.6	302
112	MMT	107,093	109,478	20673.1	5.2	14.5	7386	98.2	1091	0.0		415.3	258
113	MMT	107,444	109,991	20257.8	5.3	11.8	9105	97.0	1108	0.0		366.7	293
114	MMT	106,794	109,347	20520.1	5.2	9.4	11361	164.7	648	0.0		388.7	275
115	MMT	106,263	108,434	20531.0	5.2	33.0	3220	115.9	917	0.0		398.7	267
116	MMT	40,016	43,143	8064.8	5.0	8.0	5002	47.8	837	0.0		32.5	1232
117	MMT	35,320	37,906	7034.4	5.0	3.3	10703	34.7	1018	0.0		43.9	805
118	MMT	41,056	43,288	8087.7	5.1	6.5	6316	36.0	1140	0.0		39.6	1038
119	MMT	38,120	40,668	7460.0	5.1	18.1	2106	40.4	944	0.0		43.2	882
120	MMT	41,488	43,662	8173.2	5.1	1.7	24405	41.8	993	0.0		37.3	1113
121	MMT	39,941	42,085	7863.7	5.1	2.8	14265	29.6	1349	0.0		28.0	1427
122	MMT	40,380	42,499	7900.0	5.1	5.6	7211	25.9	1559	0.0		36.8	1096
123	MMT	41,998	44,389	8357.0	5.0	8.3	5060	50.5	832	0.0		31.3	1343
124	MMT	33,409	35,695	6518.2	5.1	12.0	2784	34.0	983	0.0		29.0	1150
125	MMT	39,646	41,921	7755.2	5.1	10.0	3965	28.5	1391	0.0		41.2	961
126	MMT	40,074	42,197	7790.4	5.1	10.9	3677	36.0	1113	0.0		32.1	1247
127	MMT	42,617	44,744	8278.4	5.1	4.7	9067	36.2	1177	0.0		35.5	1199
128	MMT	37,824	40,016	7454.2	5.1	9.0	4203	27.7	1365	0.0		32.3	1172
129	MMT	39,795	41,895	7714.1	5.2	7.0	5685	36.0	1105	0.0		27.5	1449
130	MMT	39,832	42,124	7750.3	5.1	9.2	4330	29.5	1350	0.0		29.1	1370
876	MMT	120,581	391,257	25494.6	4.7	139.9	862	187.5	643	2.6	46377	0.0	
877	MMT	119,160	399,134	25155.3	4.7	85.1	1400	142.9	834	1.2	99300	0.0	
878	MMT	120,097	393,661	25956.5	4.6	212.9	564	154.0	780	1.2	100081	0.0	
879	MMT	102,125	391,126	21295.5	4.8	74.5	1371	281.7	363	3.8	26875	0.0	
880	MMT	133,128	434,617	29353.2	4.5	228.0	584	373.2	357	10.7	12442	0.0	
881	MMT	134,394	436,322	28208.9	4.8	311.0	432	353.5	380	20.0	6720	0.0	
882	MMT	131,534	445,249	27949.0	4.7	227.1	579	180.4	729	4.3	30589	0.0	
883	MMT	127,098	378,725	26945.0	4.7	59.5	2136	132.6	959	0.4	317745	0.0	
884	MMT	127,774	423,708	28562.6	4.5	494.4	258	162.5	786	4.8	26620	0.0	
885	MMT	137,793	404,250	29261.3	4.7	128.3	1074	275.0	501	6.0	22966	0.0	
886	MMT	119,702	392,885	25785.6	4.6	174.9	684	309.8	386	0.4	299255	0.0	
887	MMT	126,827	406,260	27724.6	4.6	68.0	1865	557.5	227	1.0	126827	0.0	
888	MMT	131,960	429,826	28474.1	4.6	150.0	880	444.0	297	4.4	29991	0.0	
889	MMT	122,547	426,686	26384.8	4.6	150.8	813	146.7	835	1.6	76592	0.0	
890	MMT	122,304	414,016	25125.7	4.9	142.9	856	117.4	1042	1.2	101920	0.0	
891	MMT	129,904	370,301	28723.6	4.5	248.2	523	124.8	1041	1.1	118095	0.0	
892	MMT	119,574	392,340	25629.4	4.7	110.5	1082	399.7	299	4.7	25441	0.0	
893	MMT	132,943	405,665	28469.4	4.7	163.8	812	124.0	1072	0.5	265886	0.0	

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Domicile facility MMT

Vehicle	Facility	Distance in period	LTD End of period	Propulsion fuel Qty	Rate	Oil Qty	Rate	Coolant Qty	Rate	Trans Fl Qty	Rate	DEF Qty	Rate
Fixed route revenue vehicle													
GILLIG-LF													
894	MMT	136,725	387,756	29614.6	4.6	133.8	1022	210.5	650	0.2	683625	0.0	
895	MMT	131,062	373,410	27939.2	4.7	132.1	992	97.3	1347	5.7	22993	0.0	
896	MMT	129,222	407,049	27678.7	4.7	176.2	733	166.1	778	2.3	56183	0.0	
897	MMT	137,715	406,964	28332.4	4.9	168.1	819	198.4	694	2.3	59876	0.0	
898	MMT	141,059	406,061	30013.6	4.7	147.6	956	245.3	575	1.6	88162	0.0	
899	MMT	124,839	394,120	27068.7	4.6	102.2	1222	251.0	497	0.6	208065	0.0	
900	MMT	140,218	378,547	30619.9	4.6	200.1	701	274.3	511	1.0	140218	0.0	
901	MMT	148,925	427,985	32959.5	4.5	283.6	525	301.0	495	1.6	93078	0.0	
902	MMT	133,616	417,043	29188.1	4.6	121.5	1100	290.8	459	1.5	89077	0.0	
903	MMT	155,532	436,227	33396.5	4.7	219.9	707	298.5	521	7.7	20199	0.0	
904	MMT	145,008	413,893	31831.5	4.6	300.4	483	350.8	413	1.9	76320	0.0	
905	MMT	152,429	435,195	32965.4	4.6	224.6	679	217.2	702	3.3	46191	0.0	
906	MMT	156,917	388,293	35112.0	4.5	117.8	1332	398.9	393	25.6	6130	0.0	
907	MMT	149,209	374,005	33800.2	4.4	107.9	1383	308.9	483	6.2	24066	0.0	
908	MMT	152,487	364,431	35304.7	4.3	170.1	896	111.3	1370	12.3	12397	0.0	
909	MMT	158,490	388,262	34586.8	4.6	162.3	977	244.5	648	17.5	9057	0.0	
910	MMT	169,555	400,032	36476.8	4.6	132.0	1285	306.9	552	8.6	19716	0.0	
911	MMT	157,525	393,895	35277.6	4.5	493.3	319	369.2	427	24.6	6403	0.0	
912	MMT	148,911	384,859	32781.2	4.5	234.4	635	175.7	848	7.2	20682	0.0	
913	MMT	158,072	390,520	35260.8	4.5	318.6	496	230.0	687	23.5	6726	0.0	
914	MMT	153,962	392,313	33998.9	4.5	320.2	481	321.7	479	27.5	5599	0.0	
915	MMT	178,875	409,388	37269.3	4.8	272.5	656	366.0	489	19.1	9365	0.0	
916	MMT	168,330	373,817	37196.1	4.5	543.0	310	289.1	582	10.4	16186	0.0	
917	MMT	162,747	396,350	35680.4	4.6	629.4	259	436.9	373	17.1	9517	0.0	
918	MMT	171,537	403,028	38628.8	4.4	331.2	518	416.1	412	11.9	14415	0.0	
919	MMT	168,876	373,103	37861.5	4.5	422.1	400	266.7	633	24.3	6950	0.0	
920	MMT	172,018	403,496	38595.9	4.5	159.6	1078	297.3	579	28.8	5973	0.0	
921	MMT	184,267	399,716	40204.1	4.6	131.6	1400	315.9	583	5.5	33503	0.0	
922	MMT	183,407	290,790	40850.5	4.5	100.2	1830	660.7	278	1.7	107886	0.0	
923	MMT	204,849	255,797	45888.6	4.5	98.4	2082	323.4	633	1.7	120499	0.0	
924	MMT	199,461	313,197	44413.2	4.5	224.8	887	313.6	636	1.3	153432	0.0	
925	MMT	201,962	307,242	46408.5	4.4	208.9	967	548.0	369	2.5	80785	0.0	
926	MMT	204,394	317,742	46284.2	4.4	105.4	1939	377.5	541	1.2	170328	0.0	
927	MMT	203,902	308,120	46592.0	4.4	233.2	874	333.1	612	3.5	58258	0.0	
928	MMT	188,582	293,238	41663.4	4.5	103.9	1815	568.0	332	2.4	78576	0.0	
929	MMT	195,811	302,742	45438.7	4.3	227.3	861	207.9	942	4.1	47759	0.0	
930	MMT	211,296	317,579	47152.3	4.5	234.5	901	607.2	348	2.3	91868	0.0	
931	MMT	206,442	319,131	46394.9	4.4	191.2	1080	276.5	747	0.8	258053	0.0	
932	MMT	215,379	315,339	47569.0	4.5	256.7	839	556.5	387	1.3	165676	0.0	

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Domicile facility MMT

Vehicle	Facility	Distance in period	LTD End of period	Propulsion fuel Qty	Rate	Oil Qty	Rate	Coolant Qty	Rate	Trans Fl Qty	Rate	DEF Qty	Rate
Fixed route revenue vehicle													
GILLIG-LF													
933	MMT	216,091	326,148	48521.6	4.5	118.4	1825	486.9	444	6.0	36015	0.0	
934	MMT	218,332	318,358	48355.0	4.5	198.0	1103	385.5	566	6.2	35215	0.0	
935	MMT	219,012	322,947	48726.1	4.5	324.6	675	533.8	410	0.4	547530	0.0	
936	MMT	202,132	314,300	43908.5	4.6	119.7	1689	469.7	430	0.2	1010660	0.0	
937	MMT	207,108	305,408	46093.6	4.5	107.8	1921	493.6	420	0.8	258885	0.0	
938	MMT	217,379	314,361	48716.7	4.5	91.5	2376	343.7	632	2.8	77635	0.0	
939	MMT	215,236	318,184	47938.5	4.5	169.2	1272	131.6	1636	3.9	55189	0.0	
940	MMT	228,268	320,161	52038.7	4.4	374.7	609	269.4	847	5.7	40047	0.0	
941	MMT	235,170	335,511	52424.0	4.5	200.0	1176	144.9	1623	0.7	335957	0.0	
942	MMT	214,612	293,023	46949.1	4.6	108.8	1973	356.9	601	6.0	35769	0.0	
943	MMT	214,855	312,188	46827.3	4.6	108.7	1977	218.7	982	2.9	74088	0.0	
944	MMT	215,946	301,700	49385.4	4.4	166.3	1299	230.4	937	5.7	37885	0.0	
945	MMT	221,351	313,100	48448.2	4.6	153.7	1440	918.4	241	3.6	61486	0.0	
946	MMT	237,736	324,762	54296.9	4.4	130.7	1819	365.7	650	1.0	237736	0.0	
947	MMT	221,628	310,495	49814.5	4.4	111.8	1982	756.1	293	0.7	316611	0.0	
948	MMT	233,217	320,764	52684.9	4.4	117.7	1981	294.4	792	2.5	93287	0.0	
949	MMT	236,691	328,945	52877.5	4.5	136.3	1737	315.5	750	1.2	197243	0.0	
950	MMT	243,186	337,417	52641.5	4.6	119.1	2042	420.3	579	4.8	50664	0.0	
951	MMT	249,718	340,385	55551.8	4.5	146.2	1708	445.2	561	0.1	2497180	0.0	
952	MMT	238,242	330,739	55290.4	4.3	348.2	684	322.4	739	1.8	132357	0.0	
953	MMT	222,318	303,066	48971.0	4.5	219.1	1015	287.5	773	0.6	370530	0.0	
954	MMT	258,595	348,987	56830.4	4.6	213.8	1210	721.0	359	0.1	2585950	0.0	
955	MMT	220,235	222,394	52048.8	4.2	24.6	8953	134.5	1637	0.0		198.6	1109
956	MMT	222,401	224,708	53265.8	4.2	50.6	4395	180.9	1229	0.0		257.0	866
957	MMT	243,809	246,072	55174.1	4.4	38.9	6268	224.3	1087	0.0		181.6	1342
958	MMT	244,359	246,619	55413.6	4.4	72.3	3380	130.6	1871	0.0		159.7	1530
959	MMT	239,517	241,729	54338.2	4.4	36.0	6653	121.6	1970	0.0		226.8	1056
960	MMT	245,266	247,599	56328.9	4.4	65.1	3768	252.8	970	0.0		231.3	1061
961	MMT	254,974	257,171	58550.4	4.4	64.3	3965	258.3	987	0.0		232.2	1098
962	MMT	248,034	250,178	56607.8	4.4	43.3	5728	378.0	656	0.0		231.5	1071
963	MMT	225,719	227,936	51872.7	4.4	53.8	4196	179.4	1258	0.0		186.7	1209
964	MMT	219,622	221,897	52239.6	4.2	67.8	3239	165.8	1325	0.0		198.0	1109
965	MMT	248,846	251,028	55463.8	4.5	39.2	6348	303.6	820	0.0		267.8	929
966	MMT	261,401	263,580	59186.8	4.4	30.8	8487	310.1	843	0.0		235.2	1111
967	MMT	240,099	242,315	54763.9	4.4	83.0	2893	146.4	1640	0.0		294.9	814
968	MMT	233,060	235,338	53499.0	4.4	77.0	3027	214.8	1085	0.0		215.7	1080
969	MMT	192,623	195,027	44536.9	4.3	150.6	1279	275.6	699	0.0		233.2	826
970	MMT	206,497	208,764	46884.7	4.4	84.5	2444	148.0	1395	0.0		226.5	912
971	MMT	208,995	211,167	46821.3	4.5	99.8	2094	138.0	1514	0.0		188.7	1107

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Domicile facility MMT

Vehicle	Facility	Distance in period	LTD End of period	Propulsion fuel Qty	Rate	Oil Qty	Rate	Coolant Qty	Rate	Trans Fl Qty	Rate	DEF Qty	Rate
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Fixed route revenue vehicle

GILLIG-LF

972	MMT	216,689	218,861	47615.3	4.6	146.1	1483	235.8	919	0.0		296.4	731
973	MMT	229,175	231,530	51277.2	4.5	152.0	1508	139.9	1638	0.0		292.2	784
974	MMT	207,073	208,507	47160.1	4.4	148.1	1398	229.1	904	0.0		221.3	936
975	MMT	218,656	220,581	49844.0	4.4	113.2	1932	257.2	850	0.0		315.8	692
976	MMT	218,311	220,554	46703.8	4.7	92.0	2373	147.7	1478	0.0		387.1	564
977	MMT	220,276	222,918	48491.8	4.5	136.2	1617	451.7	488	0.0		166.1	1327
978	MMT	215,323	217,612	50548.1	4.3	130.4	1651	283.1	761	0.0		213.0	1011
979	MMT	209,570	211,778	47063.1	4.5	100.0	2096	111.4	1881	0.0		206.7	1014
980	MMT	223,290	225,479	50397.1	4.4	43.7	5110	254.5	877	0.0		304.4	734
981	MMT	235,269	237,459	51287.7	4.6	82.3	2859	151.4	1554	0.0		285.5	824
982	MMT	216,221	218,321	49681.5	4.4	52.9	4087	291.1	743	0.0		241.9	894
983	MMT	170,611	172,711	33822.7	5.0	61.9	2756	329.3	518	0.0		337.2	506
984	MMT	173,268	175,368	34529.9	5.0	20.7	8370	416.7	416	0.0		343.3	505
985	MMT	177,630	179,730	36432.0	4.9	7.1	25018	286.1	621	0.0		309.7	574
986	MMT	169,781	172,066	33807.6	5.0	52.0	3265	263.7	644	0.0		370.7	458
987	MMT	164,995	167,415	33696.8	4.9	20.3	8128	236.7	697	0.0		347.0	475
988	MMT	173,702	176,142	34190.4	5.1	18.9	9191	206.6	841	0.0		382.5	454
989	MMT	173,965	176,281	35139.1	5.0	4.9	35503	266.6	653	0.0		364.6	477
990	MMT	176,092	178,576	35164.3	5.0	51.8	3399	221.4	795	0.0		380.1	463
991	MMT	176,784	179,012	35734.4	4.9	40.5	4365	306.6	577	0.0		374.0	473
992	MMT	174,391	176,594	35330.4	4.9	10.1	17266	332.4	525	0.0		364.1	479
993	MMT	170,334	172,501	34277.9	5.0	55.1	3091	205.4	829	0.0		384.1	443
994	MMT	179,243	181,441	36108.6	5.0	27.9	6424	265.4	675	0.0		444.0	404
995	MMT	171,691	173,899	34525.1	5.0	74.1	2317	341.0	503	0.0		380.7	451
996	MMT	152,488	154,823	31805.3	4.8	25.2	6051	244.0	625	0.0		318.5	479
997	MMT	172,310	174,689	34418.9	5.0	26.1	6602	213.5	807	0.0		398.0	433
998	MMT	160,344	162,608	32494.3	4.9	29.6	5417	556.8	288	0.0		346.6	463
999	MMT	155,796	158,081	30979.6	5.0	32.8	4750	194.3	802	0.0		362.4	430

GILLIG-LF

Totals	25,305,883	40,584,590	5,090,080.2	18,930.2	39,494.0	451.6	19,793.5
Avg/Aggregates	163,264	261,836	4.6	1,337	641	56,036	1,278

FLYER-LF-4SP

861	MMT	107,071	381,569	22484.8	4.8	158.8	674	182.5	587	0.0		0.0
862	MMT	102,866	389,673	21358.7	4.8	144.3	713	80.5	1278	3.9	26376	0.0
863	MMT	103,679	411,438	21181.8	4.9	189.1	548	261.4	397	0.0		0.0
864	MMT	91,483	389,563	19015.1	4.8	90.1	1015	119.0	769	1.8	50824	0.0
865	MMT	101,855	405,524	20839.8	4.9	134.3	758	384.1	265	0.0		0.0

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Domicile facility MMT

Vehicle	Facility	Distance in period	LTD End of period	Propulsion fuel Qty	Rate	Oil Qty	Rate	Coolant Qty	Rate	Trans Fl Qty	Rate	DEF Qty	Rate
Fixed route revenue vehicle													
FLYER-LF-4SP													
866	MMT	110,052	396,134	23129.6	4.8	212.9	517	184.3	597	0.2	550260	0.0	
867	MMT	105,445	400,869	21934.1	4.8	94.0	1122	252.3	418	0.0		0.0	
868	MMT	117,331	414,294	22919.9	5.1	280.3	419	193.8	605	1.1	106665	0.0	
869	MMT	97,279	403,513	20528.9	4.7	214.5	454	97.3	1000	2.0	48640	0.0	
870	MMT	104,096	399,481	21994.7	4.7	198.2	525	145.0	718	0.2	520480	0.0	
871	MMT	113,358	410,581	23370.1	4.9	151.6	748	225.4	503	2.7	41984	0.0	
872	MMT	104,880	397,452	21757.4	4.8	122.7	855	96.3	1089	0.1	1048800	0.0	
873	MMT	102,530	398,092	21925.1	4.7	159.4	643	271.3	378	3.7	27711	0.0	
874	MMT	114,105	408,961	23283.1	4.9	245.4	465	362.6	315	0.2	570525	0.0	
875	MMT	106,113	404,256	20933.7	5.1	122.3	868	88.5	1199	0.0		0.0	

FLYER-LF-4SP

Totals		1,582,143	6,011,400	326,656.8		2,517.9		2,944.3		15.9		0.0	
Avg/Aggregates		105,476	400,760		4.8		628		537		99,506		0

FLYER-LF-3SP

800	MMT	37,940	407,791	8222.0	4.6	61.7	615	190.6	199	3.0	12647	0.0	
801	MMT	34,404	398,675	7179.3	4.8	42.6	808	134.4	256	0.0		0.0	
802	MMT	31,189	384,434	6689.2	4.7	32.3	966	207.5	150	1.6	19493	0.0	
803	MMT	50,977	402,015	11010.5	4.6	86.1	592	245.4	208	1.7	29986	0.0	
804	MMT	34,773	406,084	7956.5	4.4	54.1	643	208.2	167	4.8	7244	0.0	
805	MMT	37,177	364,731	8094.8	4.6	68.5	543	78.3	475	1.5	24785	0.0	
806	MMT	35,528	398,509	7643.7	4.6	32.6	1090	209.1	170	4.8	7402	0.0	
807	MMT	57,478	404,326	11501.7	5.0	112.9	509	777.5	74	0.0		0.0	
808	MMT	53,007	389,520	12148.7	4.4	85.5	620	172.0	308	0.0		0.0	
809	MMT	46,624	389,119	10909.4	4.3	168.8	276	268.4	174	10.3	4527	0.0	
810	MMT	69,905	406,532	15053.1	4.6	78.6	889	150.7	464	1.1	63550	0.0	
811	MMT	54,316	406,505	11711.2	4.6	62.9	864	337.1	161	6.2	8761	0.0	
812	MMT	51,592	390,668	10720.8	4.8	67.7	762	923.6	56	0.0		0.0	
813	MMT	68,444	397,637	14648.5	4.7	84.7	808	161.8	423	0.0		0.0	
814	MMT	53,726	404,156	11276.8	4.8	123.2	436	1,137.5	47	9.2	5840	0.0	
815	MMT	51,184	389,974	11018.3	4.6	98.7	519	1,316.8	39	0.1	511840	0.0	
816	MMT	60,137	400,319	13335.6	4.5	126.0	477	441.5	136	7.8	7710	0.0	
817	MMT	55,415	409,943	11656.5	4.8	71.8	772	715.3	77	0.0		0.0	
818	MMT	51,567	400,925	10619.6	4.9	51.7	997	424.2	122	2.7	19099	0.0	
819	MMT	12,889	365,253	2846.6	4.5	15.4	837	29.4	438	1.6	8056	0.0	
820	MMT	51,317	382,785	11195.1	4.6	87.5	586	557.8	92	0.5	102634	0.0	
821	MMT	62,360	400,089	12513.7	5.0	85.7	728	317.9	196	6.9	9038	0.0	
822	MMT	53,773	397,881	11419.2	4.7	104.6	514	203.2	265	0.0		0.0	

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Vehicle	Facility	Distance in period	LTD End of period	Propulsion fuel Qty	Rate	Oil Qty	Rate	Coolant Qty	Rate	Trans Fl Qty	Rate	DEF Qty	Rate
Fixed route revenue vehicle													
FLYER-LF-3SP													
823	MMT	67,842	419,539	13805.9	4.9	65.2	1041	343.6	197	4.9	13845	0.0	
824	MMT	52,406	389,445	11144.5	4.7	101.1	518	444.4	118	1.2	43672	0.0	
825	MMT	57,295	406,396	12111.6	4.7	102.5	559	179.0	320	0.7	81850	0.0	
826	MMT	62,902	395,867	13844.2	4.5	162.1	388	85.6	735	2.9	21690	0.0	
827	MMT	53,599	409,201	11659.1	4.6	94.2	569	598.6	90	1.6	33499	0.0	
828	MMT	57,133	396,499	14727.8	3.9	154.7	369	1,026.1	56	0.0		0.0	
829	MMT	70,399	405,768	15171.5	4.6	182.6	386	714.0	99	1.3	54153	0.0	
830	MMT	66,197	391,928	14314.6	4.6	162.4	408	864.8	77	0.0		0.0	
831	MMT	80,897	412,979	17698.5	4.6	163.0	496	175.5	461	0.1	808970	0.0	
832	MMT	72,517	407,729	15970.3	4.5	249.0	291	312.0	232	3.5	20719	0.0	
833	MMT	70,928	409,474	14836.3	4.8	115.0	617	197.9	358	2.3	30838	0.0	
834	MMT	76,727	394,039	15849.1	4.8	108.3	708	538.5	142	1.6	47954	0.0	
835	MMT	72,499	411,595	16245.1	4.5	122.9	590	330.1	220	0.0		0.0	
836	MMT	80,961	441,382	16843.0	4.8	130.1	622	304.7	266	7.6	10653	0.0	
837	MMT	85,907	381,032	18074.3	4.8	99.8	861	473.9	181	5.1	16845	0.0	
838	MMT	77,390	422,960	16233.0	4.8	167.5	462	357.6	216	4.3	17998	0.0	
839	MMT	73,102	413,336	15249.0	4.8	102.7	712	303.5	241	0.0		0.0	
840	MMT	76,523	424,888	19343.5	4.0	366.0	209	788.2	97	10.9	7020	0.0	
841	MMT	81,459	424,577	16940.8	4.8	200.3	407	290.8	280	3.5	23274	0.0	
842	MMT	67,294	416,400	17360.4	3.9	147.4	457	429.3	157	0.0		0.0	
843	MMT	81,298	424,781	18062.7	4.5	134.1	606	813.0	100	0.1	812980	0.0	
844	MMT	86,724	429,452	18929.1	4.6	93.6	927	537.9	161	2.2	39420	0.0	
845	MMT	79,330	432,035	16649.2	4.8	223.0	356	452.3	175	2.7	29381	0.0	
846	MMT	86,846	402,351	19629.6	4.4	98.8	879	525.8	165	1.0	86846	0.0	
847	MMT	77,982	252,722	20374.3	3.8	116.3	671	108.5	719	4.1	19020	0.0	
848	MMT	89,015	388,505	18965.1	4.7	277.2	321	209.3	425	0.2	445075	0.0	
850	MMT	93,992	416,931	19521.6	4.8	101.6	925	350.4	268	3.1	30320	0.0	
851	MMT	87,239	415,852	18229.2	4.8	132.0	661	146.9	594	0.0		0.0	
852	MMT	85,424	403,540	20926.0	4.1	102.2	836	286.5	298	0.3	284747	0.0	
853	MMT	92,957	398,093	19356.5	4.8	72.6	1280	271.3	343	0.0		0.0	
854	MMT	94,484	407,817	20280.6	4.7	242.8	389	319.9	295	0.1	944840	0.0	
855	MMT	97,350	423,415	20872.3	4.7	218.4	446	686.5	142	2.1	46357	0.0	
856	MMT	94,511	422,945	20028.9	4.7	259.1	365	260.9	362	3.1	30487	0.0	
857	MMT	98,472	427,181	20242.8	4.9	256.6	384	792.5	124	0.1	984720	0.0	
858	MMT	89,190	416,125	18177.2	4.9	180.8	493	400.7	223	0.1	891900	0.0	
859	MMT	86,216	404,129	18504.3	4.7	223.6	386	87.9	981	1.7	50715	0.0	
860	MMT	95,745	419,614	21377.1	4.5	238.5	401	180.5	530	0.0		0.0	
800A	MMT	0	0	0.0		0.0		0.0		0.0		0.0	

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Domicile facility MMT

Vehicle	Facility	Distance in period	LTD End of period	Propulsion fuel Qty	Rate	Oil Qty	Rate	Coolant Qty	Rate	Trans Fl Qty	Rate	DEF Qty	Rate
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Fixed route revenue vehicle

FLYER-LF-3SP

Totals	4,036,474	24,158,393	876,919.8			7,771.6		24,397.1		136.2		0.0	
Avg/Aggregates	66,172	396,039			4.6		519		165		29,636		0

SUPPORT

6600	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6604	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6605	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6606	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6607	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6609	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6610	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6611	MMT	0	10	0.0		0.0		0.0		0.0		0.0	
6613	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6615	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6617	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6618	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6619	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6620	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6633	MMT	0	87,066	0.0		0.0		0.0		0.0		0.0	
6634	MMT	0	80,908	0.0		0.0		0.0		0.0		0.0	
6635	MMT	0	97,390	0.0		0.0		0.0		0.0		0.0	
6638	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6651	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6652	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6653	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6654	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6655	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6656	MMT	0	55	0.0		0.0		0.0		0.0		0.0	
6502A	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6547B	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6552D	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6571E	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6572F	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6575G	MMT	0	79,054	0.0		0.0		0.0		0.0		0.0	
6577H	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6582I	MMT	0	0	0.0		0.0		0.0		0.0		0.0	

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Domicile facility MMT

Vehicle	Facility	Distance in period	LTD End of period	Propulsion fuel Qty	Rate	Oil Qty	Rate	Coolant Qty	Rate	Trans FI Qty	Rate	DEF Qty	Rate
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Fixed route revenue vehicle

SUPPORT

Totals		0	344,483	0.0		0.0		0.0		0.0		0.0	
Avg/Aggregates		0	10,765		0.0		0		0		0		0

Fixed route revenue vehicle

Totals	36,143,947	77,420,287	681,142.5		30,080.8		71,719.5		603.7		23,394.3		
Averages / Aggregates	127,267	272,607			4.7		1,202		504		59,871		1,545

Paratransit revenue vehicle

ARBOC

755	MMT	117,605	137,527	13128.4	9.0	1.9	61897	15.2	7737	0.4	294013	0.0	
756	MMT	124,212	142,274	11752.7	10.6	0.1	242120	26.6	4670	0.2	621060	0.0	
757	MMT	117,346	134,533	11325.4	10.4	3.6	32596	10.1	11618	0.4	293365	0.0	
758	MMT	111,284	129,986	11073.2	10.0	5.5	20233	16.2	6869	0.1	112840	0.0	

ARBOC

Totals		470,447	544,320	47,279.7		11.1		68.1		1.1		0.0	
Avg/Aggregates		117,612	136,080		10.0		42,383		6,908		427,679		0

Glaval low floor

759	MMT	85,657	85,975	8321.0	10.3	0.9	95174	9.8	8741	0.0		32.6	2629
760	MMT	97,521	97,771	9556.6	10.2	1.0	97521	7.1	13735	0.0		38.5	2536
761	MMT	96,677	96,927	9607.4	10.1	0.0		12.1	7990	0.0		44.8	2159
762	MMT	106,090	106,340	10694.1	9.9	2.5	42436	9.6	11051	0.0		27.7	3833
763	MMT	100,474	100,724	9272.9	10.8	1.3	77288	11.6	8662	0.0		28.5	3527
764	MMT	102,538	102,788	9885.7	10.4	0.2	512690	17.2	5962	0.0		28.1	3650
765	MMT	103,030	103,280	9912.1	10.4	2.7	38159	12.0	8586	0.0		34.8	2965
766	MMT	99,202	99,452	9628.1	10.3	4.8	20667	15.3	6484	0.0		43.6	2275
767	MMT	92,630	92,943	8792.1	10.5	0.0		7.3	12689	0.0		38.6	2402
768	MMT	80,311	80,666	8100.1	9.9	0.0		6.4	12549	0.0		28.5	2823
769	MMT	94,173	94,524	9049.2	10.4	0.0		8.4	11211	0.0		38.8	2428
770	MMT	95,743	96,052	9576.5	10.0	2.2	43520	5.5	17408	0.0		37.9	2525
771	MMT	93,476	93,792	9043.9	10.3	1.5	62317	15.6	5992	0.0		29.8	3141

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Domicile facility MMT

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Paratransit revenue vehicle

Glaval low floor

Totals		1,247,522	1,251,234	121,439.6		17.1		137.9		0.0		451.9	
Avg/Aggregates		95,963	96,249		10.3		72,955		9,047		0		2,761

Paratransit revenue vehicle

Totals		1,717,969	1,795,554	168,719.2		28.2		206.0		1.1		451.9	
Averages / Aggregates		101,057	105,621		10.2		60,921		8,340		1,561,790		3,802

Support vehicles

SUPPORT

6134	MMT	24,769	111,597	1564.7	15.8	0.0		0.0		0.0		0.0	
6160	MMT	17,553	118,888	1393.3	12.6	0.0		0.0		0.0		0.0	
6612	MMT	0	67,640	0.0		0.0		0.0		0.0		0.0	
6614	MMT	0	73,350	0.0		0.0		0.0		0.0		0.0	
6616	MMT	0	57,231	0.0		0.0		0.0		0.0		0.0	
6625	MMT	11,463	89,779	872.9	13.1	0.0		0.0		0.0		0.0	
6626	MMT	4,890	120,043	440.8	11.1	0.0		0.0		0.0		0.0	
6627	MMT	5,221	98,614	433.3	12.0	0.0		0.0		0.0		0.0	
6628	MMT	4,422	96,812	353.1	12.5	0.0		0.0		0.0		0.0	
6629	MMT	9,221	83,416	733.4	12.6	0.0		0.0		0.0		0.0	
6630	MMT	16,296	105,913	1149.8	14.2	0.0		0.0		0.0		0.0	
6631	MMT	13,317	94,895	1035.7	12.9	0.0		0.0		0.0		0.0	
6632	MMT	10,443	82,535	923.5	11.3	0.0		0.0		0.0		0.0	
6636	MMT	0	132,548	0.0		0.0		0.0		0.0		0.0	
6637	MMT	0	109,883	0.0		0.0		0.0		0.0		0.0	
6639	MMT	0	124,487	0.0		0.0		0.0		0.0		0.0	
6640	MMT	0	123,896	0.0		0.0		0.0		0.0		0.0	
6641	MMT	0	135,214	0.0		0.0		0.0		0.0		0.0	
6642	MMT	0	118,000	0.0		0.0		0.0		0.0		0.0	
6643	MMT	0	109,136	0.0		0.0		0.0		0.0		0.0	
6650	MMT	2,997	3,152	150.0	20.0	0.0		0.0		0.0		0.0	
6657	MMT	15,174	61,238	1700.8	8.9	0.0		0.0		0.0		0.0	
6658	MMT	22,568	55,364	2284.0	9.9	0.0		0.0		0.0		0.0	
6664	MMT	44,385	146,199	3780.0	11.7	0.0		0.0		0.0		0.0	
6665	MMT	26,090	93,772	2824.9	9.2	0.0		0.0		0.0		0.0	
6666	MMT	17,984	49,297	1883.2	9.5	0.0		0.0		0.0		0.0	

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Domicile facility MMT

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Support vehicles

SUPPORT

6667	MMT	10,642	38,749	1827.5	5.8	0.0		0.0		0.0		0.0	
6668	MMT	29,021	36,075	1642.7	17.7	0.0		0.0		0.0		0.0	
6669	MMT	34,473	38,091	1393.0	24.7	0.0		0.0		0.0		0.0	
6670	MMT	52,872	58,318	2594.0	20.4	0.0		0.0		0.0		0.0	
6671	MMT	42,196	64,970	2003.2	21.1	0.0		0.0		0.0		0.0	
6672	MMT	30,624	38,138	1424.9	21.5	0.0		0.0		0.0		0.0	
6673	MMT	57,979	69,123	2831.9	20.5	0.0		0.0		0.0		0.0	
6674	MMT	50,882	64,237	2333.9	21.8	0.0		0.0		0.0		0.0	
6675	MMT	13,265	39,133	542.3	24.5	0.0		0.0		0.0		0.0	
6676	MMT	35,379	49,449	2050.9	17.3	0.0		0.0		0.0		0.0	
6677	MMT	44,859	74,031	2008.6	22.3	0.0		0.0		0.0		0.0	
6678	MMT	48,659	48,722	3643.1	13.4	0.0		0.0		0.0		0.0	
6679	MMT	67,018	67,081	4705.4	14.2	0.0		0.0		0.0		0.0	
6680	MMT	16,121	18,516	2306.2	7.0	0.0		0.0		0.0		0.0	
6681	MMT	51,223	51,223	4191.8	12.2	15.0	3415	0.0		0.0		0.0	
6682	MMT	24,898	24,908	1586.5	15.7	0.0		0.0		0.0		0.0	
6683	MMT	28,451	28,453	1655.1	17.2	0.0		0.0		0.0		0.0	
6684	MMT	24,428	24,430	1216.9	20.1	0.0		0.0		0.0		0.0	
6685	MMT	3,592	3,609	135.3	26.5	0.0		0.0		0.0		0.0	
6686	MMT	16,102	16,119	704.8	22.8	0.0		0.0		0.0		0.0	
6687	MMT	29,367	29,384	1218.8	24.1	0.0		0.0		0.0		0.0	
6688	MMT	4,758	4,798	196.4	24.2	0.0		0.0		0.0		0.0	
6689	MMT	6,885	6,985	539.3	12.8	0.0		0.0		0.0		0.0	
6693	MMT	9,504	108,600	655.6	14.5	0.0		0.0		0.0		0.0	
6549C	MMT	0	0	0.0		0.0		0.0		0.0		0.0	

SUPPORT

Totals	979,991	3,466,041	64,931.4			15.0		0.0		0.0		0.0	
Avggs/Aggregates	19,216	67,962		15.1		65,333		0		0		0	

Support vehicles

Totals	979,991	3,466,041	64,931.4			15.0		0.0		0.0		0.0	
Averages / Aggregates	19,216	67,962		15.1		65,333		0		0		0	

Equipment

AB&G

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Equipment

AB&G

1727	MMT	0	10	197.6	0.0	0.0		0.0		0.0		0.0	
BLDG-GEN	MMT			0.0		0.0		0.0		0.0		0.0	
LAWNMOWER	MMT			590.9		0.0		0.0		0.0		0.0	

AB&G

Totals		0	10	788.5		0.0		0.0		0.0		0.0	
Avg/Aggregates		0	3		0.0		0		0		0		0

SUPPORT

0126	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
0127	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
1726	MMT	0	0	0.0		0.0		0.0		0.0		0.0	

SUPPORT

Totals		0	0	0.0		0.0		0.0		0.0		0.0	
Avg/Aggregates		0	0		0.0		0		0		0		0

Equipment

Totals		0	10	788.5		0.0		0.0		0.0		0.0	
Averages / Aggregates		0	2		0.0		0		0		0		0

Grand totals

38,841,907	7,915,581.7	30,124.0	71,925.5	604.8	23,846.2
82,681,892	4.9				

Madison Metro Transit

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Vehicle	Facility	Distance in period	LTD End of period	Propulsion fuel		----- Oil -----		Coolant		Trans FI		DEF	
				Qty	Rate	Qty	Rate	Qty	Rate	Qty	Rate	Qty	Rate
Fixed route revenue vehicle													
GILLIG HYBRID													
001	MMT	211,206	383,006	38651.8	5.5	147.5	1432	457.8	461	0.0		0.0	
002	MMT	201,100	340,040	39594.4	5.1	142.9	1407	285.1	705	0.0		0.0	
003	MMT	206,018	362,507	40239.5	5.1	123.6	1667	169.1	1218	0.0		0.0	
004	MMT	188,807	309,695	39709.2	4.8	123.7	1526	598.9	315	0.0		0.0	
005	MMT	189,483	322,486	42911.2	4.4	59.8	3169	338.8	559	0.0		0.0	
006	MMT	288,862	313,457	52117.0	5.5	49.5	5836	87.8	3290	0.0		175.3	1648
007	MMT	262,660	291,116	47906.1	5.5	43.4	6052	136.3	1927	0.0		247.6	1061
008	MMT	263,250	290,814	47717.9	5.5	16.5	15955	150.5	1749	0.0		143.4	1836
009	MMT	273,283	298,762	48957.4	5.6	6.1	44800	184.9	1478	0.0		117.7	2322
010	MMT	289,646	315,998	51805.7	5.6	5.0	57929	167.4	1730	0.0		222.8	1300
011	MMT	287,793	317,205	51133.2	5.6	31.9	9022	208.1	1383	0.0		290.5	991
012	MMT	289,798	316,545	52917.0	5.5	6.9	42000	189.6	1528	0.0		114.3	2535
013	MMT	285,387	312,135	51351.8	5.6	27.2	10492	157.7	1810	0.0		321.6	887
014	MMT	291,095	315,655	53476.3	5.4	7.2	40430	204.1	1426	0.0		154.0	1890
015	MMT	305,919	333,030	55135.0	5.5	4.8	63733	252.7	1211	0.0		321.1	953
016	MMT	290,202	320,797	53672.0	5.4	1.0	290202	123.4	2352	0.0		174.5	1663
017	MMT	238,052	264,732	42887.4	5.6	6.0	39675	222.8	1068	0.0		180.2	1321
018	MMT	270,520	295,059	50971.5	5.3	1.4	193229	169.8	1593	0.0		170.6	1586
019	MMT	293,401	320,809	53220.2	5.5	54.8	5354	419.9	699	0.0		303.3	967
020	MMT	143,596	146,055	26797.1	5.4	1.9	75577	223.0	644	0.0		315.8	455
021	MMT	149,369	151,518	27314.0	5.5	0.0		136.4	1095	0.0		348.2	429

GILLIG HYBRID

Totals	5,219,447	6,321,421	968,485.8			861.1		4,884.1		0.0		3,600.7	
Avggs/Aggregates	248,545	301,020		5.4			6,061		1,069		0		1,450

GILLIG-LF

100	MMT	152,541	154,641	30840.3	4.9	46.0	3316	185.8	821	0.0		365.6	417
101	MMT	102,825	104,925	19850.8	5.2	8.9	11553	204.4	503	0.0		432.7	238
102	MMT	70,200	72,300	13713.6	5.1	12.7	5528	79.6	882	0.0		175.3	401
103	MMT	112,734	114,834	21805.2	5.2	14.7	7669	125.9	895	0.0		461.3	244
104	MMT	109,861	111,961	21192.8	5.2	11.6	9471	141.1	779	0.0		459.1	239
105	MMT	105,101	107,170	20317.3	5.2	21.3	4934	137.5	764	0.0		434.1	242
106	MMT	110,135	112,368	21136.6	5.2	12.5	8811	118.3	931	0.0		469.6	235
107	MMT	111,567	114,117	21134.7	5.3	7.9	14122	109.0	1024	0.0		427.9	261
108	MMT	108,546	110,791	20739.0	5.2	7.9	13740	132.5	819	0.0		428.0	254
109	MMT	107,836	110,088	20611.8	5.2	18.1	5958	112.2	961	1.4	77026	422.7	255

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Fixed route revenue vehicle													
GILLIG-LF													
110	MMT	106,369	108,581	20287.2	5.2	14.5	7336	111.9	951	0.0		392.5	271
111	MMT	100,442	102,621	19655.6	5.1	36.1	2782	115.8	867	0.0		332.6	302
112	MMT	107,093	109,478	20673.1	5.2	14.5	7386	98.2	1091	0.0		415.3	258
113	MMT	107,444	109,991	20257.8	5.3	11.8	9105	97.0	1108	0.0		366.7	293
114	MMT	106,794	109,347	20520.1	5.2	9.4	11361	164.7	648	0.0		388.7	275
115	MMT	106,263	108,434	20531.0	5.2	33.0	3220	115.9	917	0.0		398.7	267
116	MMT	40,016	43,143	8064.8	5.0	8.0	5002	47.8	837	0.0		32.5	1232
117	MMT	35,320	37,906	7034.4	5.0	3.3	10703	34.7	1018	0.0		43.9	805
118	MMT	41,056	43,288	8087.7	5.1	6.5	6316	36.0	1140	0.0		39.6	1038
119	MMT	38,120	40,668	7460.0	5.1	18.1	2106	40.4	944	0.0		43.2	882
120	MMT	41,488	43,662	8173.2	5.1	1.7	24405	41.8	993	0.0		37.3	1113
121	MMT	39,941	42,085	7863.7	5.1	2.8	14265	29.6	1349	0.0		28.0	1427
122	MMT	40,380	42,499	7900.0	5.1	5.6	7211	25.9	1559	0.0		36.8	1096
123	MMT	41,998	44,389	8357.0	5.0	8.3	5060	50.5	832	0.0		31.3	1343
124	MMT	33,409	35,695	6518.2	5.1	12.0	2784	34.0	983	0.0		29.0	1150
125	MMT	39,646	41,921	7755.2	5.1	10.0	3965	28.5	1391	0.0		41.2	961
126	MMT	40,074	42,197	7790.4	5.1	10.9	3677	36.0	1113	0.0		32.1	1247
127	MMT	42,617	44,744	8278.4	5.1	4.7	9067	36.2	1177	0.0		35.5	1199
128	MMT	37,824	40,016	7454.2	5.1	9.0	4203	27.7	1365	0.0		32.3	1172
129	MMT	39,795	41,895	7714.1	5.2	7.0	5685	36.0	1105	0.0		27.5	1449
130	MMT	39,832	42,124	7750.3	5.1	9.2	4330	29.5	1350	0.0		29.1	1370
876	MMT	120,581	391,257	25494.6	4.7	139.9	862	187.5	643	2.6	46377	0.0	
877	MMT	119,160	399,134	25155.3	4.7	85.1	1400	142.9	834	1.2	99300	0.0	
878	MMT	120,097	393,661	25956.5	4.6	212.9	564	154.0	780	1.2	100081	0.0	
879	MMT	102,125	391,126	21295.5	4.8	74.5	1371	281.7	363	3.8	26875	0.0	
880	MMT	133,128	434,617	29353.2	4.5	228.0	584	373.2	357	10.7	12442	0.0	
881	MMT	134,394	436,322	28208.9	4.8	311.0	432	353.5	380	20.0	6720	0.0	
882	MMT	131,534	445,249	27949.0	4.7	227.1	579	180.4	729	4.3	30589	0.0	
883	MMT	127,098	378,725	26945.0	4.7	59.5	2136	132.6	959	0.4	317745	0.0	
884	MMT	127,774	423,708	28562.6	4.5	494.4	258	162.5	786	4.8	26620	0.0	
885	MMT	137,793	404,250	29261.3	4.7	128.3	1074	275.0	501	6.0	22966	0.0	
886	MMT	119,702	392,885	25785.6	4.6	174.9	684	309.8	386	0.4	299255	0.0	
887	MMT	126,827	406,260	27724.6	4.6	68.0	1865	557.5	227	1.0	126827	0.0	
888	MMT	131,960	429,826	28474.1	4.6	150.0	880	444.0	297	4.4	29991	0.0	
889	MMT	122,547	426,686	26384.8	4.6	150.8	813	146.7	835	1.6	76592	0.0	
890	MMT	122,304	414,016	25125.7	4.9	142.9	856	117.4	1042	1.2	101920	0.0	
891	MMT	129,904	370,301	28723.6	4.5	248.2	523	124.8	1041	1.1	118095	0.0	
892	MMT	119,574	392,340	25629.4	4.7	110.5	1082	399.7	299	4.7	25441	0.0	
893	MMT	132,943	405,665	28469.4	4.7	163.8	812	124.0	1072	0.5	265886	0.0	

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Vehicle	Facility	Distance in period	LTD End of period	Propulsion fuel Qty	Rate	Oil Qty	Rate	Coolant Qty	Rate	Trans Fl Qty	Rate	DEF Qty	Rate
Fixed route revenue vehicle													
GILLIG-LF													
894	MMT	136,725	387,756	29614.6	4.6	133.8	1022	210.5	650	0.2	683625	0.0	
895	MMT	131,062	373,410	27939.2	4.7	132.1	992	97.3	1347	5.7	22993	0.0	
896	MMT	129,222	407,049	27678.7	4.7	176.2	733	166.1	778	2.3	56183	0.0	
897	MMT	137,715	406,964	28332.4	4.9	168.1	819	198.4	694	2.3	59876	0.0	
898	MMT	141,059	406,061	30013.6	4.7	147.6	956	245.3	575	1.6	88162	0.0	
899	MMT	124,839	394,120	27068.7	4.6	102.2	1222	251.0	497	0.6	208065	0.0	
900	MMT	140,218	378,547	30619.9	4.6	200.1	701	274.3	511	1.0	140218	0.0	
901	MMT	148,925	427,985	32959.5	4.5	283.6	525	301.0	495	1.6	93078	0.0	
902	MMT	133,616	417,043	29188.1	4.6	121.5	1100	290.8	459	1.5	89077	0.0	
903	MMT	155,532	436,227	33396.5	4.7	219.9	707	298.5	521	7.7	20199	0.0	
904	MMT	145,008	413,893	31831.5	4.6	300.4	483	350.8	413	1.9	76320	0.0	
905	MMT	152,429	435,195	32965.4	4.6	224.6	679	217.2	702	3.3	46191	0.0	
906	MMT	156,917	388,293	35112.0	4.5	117.8	1332	398.9	393	25.6	6130	0.0	
907	MMT	149,209	374,005	33800.2	4.4	107.9	1383	308.9	483	6.2	24066	0.0	
908	MMT	152,487	364,431	35304.7	4.3	170.1	896	111.3	1370	12.3	12397	0.0	
909	MMT	158,490	388,262	34586.8	4.6	162.3	977	244.5	648	17.5	9057	0.0	
910	MMT	169,555	400,032	36476.8	4.6	132.0	1285	306.9	552	8.6	19716	0.0	
911	MMT	157,525	393,895	35277.6	4.5	493.3	319	369.2	427	24.6	6403	0.0	
912	MMT	148,911	384,859	32781.2	4.5	234.4	635	175.7	848	7.2	20682	0.0	
913	MMT	158,072	390,520	35260.8	4.5	318.6	496	230.0	687	23.5	6726	0.0	
914	MMT	153,962	392,313	33998.9	4.5	320.2	481	321.7	479	27.5	5599	0.0	
915	MMT	178,875	409,388	37269.3	4.8	272.5	656	366.0	489	19.1	9365	0.0	
916	MMT	168,330	373,817	37196.1	4.5	543.0	310	289.1	582	10.4	16186	0.0	
917	MMT	162,747	396,350	35680.4	4.6	629.4	259	436.9	373	17.1	9517	0.0	
918	MMT	171,537	403,028	38628.8	4.4	331.2	518	416.1	412	11.9	14415	0.0	
919	MMT	168,876	373,103	37861.5	4.5	422.1	400	266.7	633	24.3	6950	0.0	
920	MMT	172,018	403,496	38595.9	4.5	159.6	1078	297.3	579	28.8	5973	0.0	
921	MMT	184,267	399,716	40204.1	4.6	131.6	1400	315.9	583	5.5	33503	0.0	
922	MMT	183,407	290,790	40850.5	4.5	100.2	1830	660.7	278	1.7	107886	0.0	
923	MMT	204,849	255,797	45888.6	4.5	98.4	2082	323.4	633	1.7	120499	0.0	
924	MMT	199,461	313,197	44413.2	4.5	224.8	887	313.6	636	1.3	153432	0.0	
925	MMT	201,962	307,242	46408.5	4.4	208.9	967	548.0	369	2.5	80785	0.0	
926	MMT	204,394	317,742	46284.2	4.4	105.4	1939	377.5	541	1.2	170328	0.0	
927	MMT	203,902	308,120	46592.0	4.4	233.2	874	333.1	612	3.5	58258	0.0	
928	MMT	188,582	293,238	41663.4	4.5	103.9	1815	568.0	332	2.4	78576	0.0	
929	MMT	195,811	302,742	45438.7	4.3	227.3	861	207.9	942	4.1	47759	0.0	
930	MMT	211,296	317,579	47152.3	4.5	234.5	901	607.2	348	2.3	91868	0.0	
931	MMT	206,442	319,131	46394.9	4.4	191.2	1080	276.5	747	0.8	258053	0.0	
932	MMT	215,379	315,339	47569.0	4.5	256.7	839	556.5	387	1.3	165676	0.0	

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Domicile facility MMT

Vehicle	Facility	Distance in period	LTD End of period	Propulsion fuel Qty	Rate	Oil Qty	Rate	Coolant Qty	Rate	Trans Fl Qty	Rate	DEF Qty	Rate
Fixed route revenue vehicle													
GILLIG-LF													
933	MMT	216,091	326,148	48521.6	4.5	118.4	1825	486.9	444	6.0	36015	0.0	
934	MMT	218,332	318,358	48355.0	4.5	198.0	1103	385.5	566	6.2	35215	0.0	
935	MMT	219,012	322,947	48726.1	4.5	324.6	675	533.8	410	0.4	547530	0.0	
936	MMT	202,132	314,300	43908.5	4.6	119.7	1689	469.7	430	0.2	1010660	0.0	
937	MMT	207,108	305,408	46093.6	4.5	107.8	1921	493.6	420	0.8	258885	0.0	
938	MMT	217,379	314,361	48716.7	4.5	91.5	2376	343.7	632	2.8	77635	0.0	
939	MMT	215,236	318,184	47938.5	4.5	169.2	1272	131.6	1636	3.9	55189	0.0	
940	MMT	228,268	320,161	52038.7	4.4	374.7	609	269.4	847	5.7	40047	0.0	
941	MMT	235,170	335,511	52424.0	4.5	200.0	1176	144.9	1623	0.7	335957	0.0	
942	MMT	214,612	293,023	46949.1	4.6	108.8	1973	356.9	601	6.0	35769	0.0	
943	MMT	214,855	312,188	46827.3	4.6	108.7	1977	218.7	982	2.9	74088	0.0	
944	MMT	215,946	301,700	49385.4	4.4	166.3	1299	230.4	937	5.7	37885	0.0	
945	MMT	221,351	313,100	48448.2	4.6	153.7	1440	918.4	241	3.6	61486	0.0	
946	MMT	237,736	324,762	54296.9	4.4	130.7	1819	365.7	650	1.0	237736	0.0	
947	MMT	221,628	310,495	49814.5	4.4	111.8	1982	756.1	293	0.7	316611	0.0	
948	MMT	233,217	320,764	52684.9	4.4	117.7	1981	294.4	792	2.5	93287	0.0	
949	MMT	236,691	328,945	52877.5	4.5	136.3	1737	315.5	750	1.2	197243	0.0	
950	MMT	243,186	337,417	52641.5	4.6	119.1	2042	420.3	579	4.8	50664	0.0	
951	MMT	249,718	340,385	55551.8	4.5	146.2	1708	445.2	561	0.1	2497180	0.0	
952	MMT	238,242	330,739	55290.4	4.3	348.2	684	322.4	739	1.8	132357	0.0	
953	MMT	222,318	303,066	48971.0	4.5	219.1	1015	287.5	773	0.6	370530	0.0	
954	MMT	258,595	348,987	56830.4	4.6	213.8	1210	721.0	359	0.1	2585950	0.0	
955	MMT	220,235	222,394	52048.8	4.2	24.6	8953	134.5	1637	0.0		198.6	1109
956	MMT	222,401	224,708	53265.8	4.2	50.6	4395	180.9	1229	0.0		257.0	866
957	MMT	243,809	246,072	55174.1	4.4	38.9	6268	224.3	1087	0.0		181.6	1342
958	MMT	244,359	246,619	55413.6	4.4	72.3	3380	130.6	1871	0.0		159.7	1530
959	MMT	239,517	241,729	54338.2	4.4	36.0	6653	121.6	1970	0.0		226.8	1056
960	MMT	245,266	247,599	56328.9	4.4	65.1	3768	252.8	970	0.0		231.3	1061
961	MMT	254,974	257,171	58550.4	4.4	64.3	3965	258.3	987	0.0		232.2	1098
962	MMT	248,034	250,178	56607.8	4.4	43.3	5728	378.0	656	0.0		231.5	1071
963	MMT	225,719	227,936	51872.7	4.4	53.8	4196	179.4	1258	0.0		186.7	1209
964	MMT	219,622	221,897	52239.6	4.2	67.8	3239	165.8	1325	0.0		198.0	1109
965	MMT	248,846	251,028	55463.8	4.5	39.2	6348	303.6	820	0.0		267.8	929
966	MMT	261,401	263,580	59186.8	4.4	30.8	8487	310.1	843	0.0		235.2	1111
967	MMT	240,099	242,315	54763.9	4.4	83.0	2893	146.4	1640	0.0		294.9	814
968	MMT	233,060	235,338	53499.0	4.4	77.0	3027	214.8	1085	0.0		215.7	1080
969	MMT	192,623	195,027	44536.9	4.3	150.6	1279	275.6	699	0.0		233.2	826
970	MMT	206,497	208,764	46884.7	4.4	84.5	2444	148.0	1395	0.0		226.5	912
971	MMT	208,995	211,167	46821.3	4.5	99.8	2094	138.0	1514	0.0		188.7	1107

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Domicile facility MMT

Vehicle	Facility	Distance in period	LTD End of period	Propulsion fuel Qty	Rate	----- Oil ----- Qty	Rate	Coolant Qty	Rate	Trans Fl Qty	Rate	DEF Qty	Rate
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Fixed route revenue vehicle

GILLIG-LF

972	MMT	216,689	218,861	47615.3	4.6	146.1	1483	235.8	919	0.0		296.4	731
973	MMT	229,175	231,530	51277.2	4.5	152.0	1508	139.9	1638	0.0		292.2	784
974	MMT	207,073	208,507	47160.1	4.4	148.1	1398	229.1	904	0.0		221.3	936
975	MMT	218,656	220,581	49844.0	4.4	113.2	1932	257.2	850	0.0		315.8	692
976	MMT	218,311	220,554	46703.8	4.7	92.0	2373	147.7	1478	0.0		387.1	564
977	MMT	220,276	222,918	48491.8	4.5	136.2	1617	451.7	488	0.0		166.1	1327
978	MMT	215,323	217,612	50548.1	4.3	130.4	1651	283.1	761	0.0		213.0	1011
979	MMT	209,570	211,778	47063.1	4.5	100.0	2096	111.4	1881	0.0		206.7	1014
980	MMT	223,290	225,479	50397.1	4.4	43.7	5110	254.5	877	0.0		304.4	734
981	MMT	235,269	237,459	51287.7	4.6	82.3	2859	151.4	1554	0.0		285.5	824
982	MMT	216,221	218,321	49681.5	4.4	52.9	4087	291.1	743	0.0		241.9	894
983	MMT	170,611	172,711	33822.7	5.0	61.9	2756	329.3	518	0.0		337.2	506
984	MMT	173,268	175,368	34529.9	5.0	20.7	8370	416.7	416	0.0		343.3	505
985	MMT	177,630	179,730	36432.0	4.9	7.1	25018	286.1	621	0.0		309.7	574
986	MMT	169,781	172,066	33807.6	5.0	52.0	3265	263.7	644	0.0		370.7	458
987	MMT	164,995	167,415	33696.8	4.9	20.3	8128	236.7	697	0.0		347.0	475
988	MMT	173,702	176,142	34190.4	5.1	18.9	9191	206.6	841	0.0		382.5	454
989	MMT	173,965	176,281	35139.1	5.0	4.9	35503	266.6	653	0.0		364.6	477
990	MMT	176,092	178,576	35164.3	5.0	51.8	3399	221.4	795	0.0		380.1	463
991	MMT	176,784	179,012	35734.4	4.9	40.5	4365	306.6	577	0.0		374.0	473
992	MMT	174,391	176,594	35330.4	4.9	10.1	17266	332.4	525	0.0		364.1	479
993	MMT	170,334	172,501	34277.9	5.0	55.1	3091	205.4	829	0.0		384.1	443
994	MMT	179,243	181,441	36108.6	5.0	27.9	6424	265.4	675	0.0		444.0	404
995	MMT	171,691	173,899	34525.1	5.0	74.1	2317	341.0	503	0.0		380.7	451
996	MMT	152,488	154,823	31805.3	4.8	25.2	6051	244.0	625	0.0		318.5	479
997	MMT	172,310	174,689	34418.9	5.0	26.1	6602	213.5	807	0.0		398.0	433
998	MMT	160,344	162,608	32494.3	4.9	29.6	5417	556.8	288	0.0		346.6	463
999	MMT	155,796	158,081	30979.6	5.0	32.8	4750	194.3	802	0.0		362.4	430

GILLIG-LF

Totals	25,305,883	40,584,590	5,509,080.2		18,930.2		39,494.0		451.6		19,793.5	
Avg/Aggregates	163,264	261,836		4.6		1,337		641		56,036		1,278

FLYER-LF-4SP

861	MMT	107,071	381,569	22484.8	4.8	158.8	674	182.5	587	0.0		0.0
862	MMT	102,866	389,673	21358.7	4.8	144.3	713	80.5	1278	3.9	26376	0.0
863	MMT	103,679	411,438	21181.8	4.9	189.1	548	261.4	397	0.0		0.0
864	MMT	91,483	389,563	19015.1	4.8	90.1	1015	119.0	769	1.8	50824	0.0
865	MMT	101,855	405,524	20839.8	4.9	134.3	758	384.1	265	0.0		0.0

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Vehicle	Facility	Distance in period	LTD End of period	Propulsion fuel Qty	Rate	----- Oil ----- Qty	Rate	Coolant Qty	Rate	Trans Fl Qty	Rate	DEF Qty	Rate
Fixed route revenue vehicle													
FLYER-LF-4SP													
866	MMT	110,052	396,134	23129.6	4.8	212.9	517	184.3	597	0.2	550260	0.0	
867	MMT	105,445	400,869	21934.1	4.8	94.0	1122	252.3	418	0.0		0.0	
868	MMT	117,331	414,294	22919.9	5.1	280.3	419	193.8	605	1.1	106665	0.0	
869	MMT	97,279	403,513	20528.9	4.7	214.5	454	97.3	1000	2.0	48640	0.0	
870	MMT	104,096	399,481	21994.7	4.7	198.2	525	145.0	718	0.2	520480	0.0	
871	MMT	113,358	410,581	23370.1	4.9	151.6	748	225.4	503	2.7	41984	0.0	
872	MMT	104,880	397,452	21757.4	4.8	122.7	855	96.3	1089	0.1	1048800	0.0	
873	MMT	102,530	398,092	21925.1	4.7	159.4	643	271.3	378	3.7	27711	0.0	
874	MMT	114,105	408,961	23283.1	4.9	245.4	465	362.6	315	0.2	570525	0.0	
875	MMT	106,113	404,256	20933.7	5.1	122.3	868	88.5	1199	0.0		0.0	

FLYER-LF-4SP

Totals	1,582,143	6,011,400	326,656.8		2,517.9		2,944.3		15.9		0.0		
Avg/Aggregates	105,476	400,760		4.8		628		537		99,506		0	

FLYER-LF-3SP

800	MMT	37,940	407,791	8222.0	4.6	61.7	615	190.6	199	3.0	12647	0.0	
801	MMT	34,404	398,675	7179.3	4.8	42.6	808	134.4	256	0.0		0.0	
802	MMT	31,189	384,434	6689.2	4.7	32.3	966	207.5	150	1.6	19493	0.0	
803	MMT	50,977	402,015	11010.5	4.6	86.1	592	245.4	208	1.7	29986	0.0	
804	MMT	34,773	406,084	7956.5	4.4	54.1	643	208.2	167	4.8	7244	0.0	
805	MMT	37,177	364,731	8094.8	4.6	68.5	543	78.3	475	1.5	24785	0.0	
806	MMT	35,528	398,509	7643.7	4.6	32.6	1090	209.1	170	4.8	7402	0.0	
807	MMT	57,478	404,326	11501.7	5.0	112.9	509	777.5	74	0.0		0.0	
808	MMT	53,007	389,520	12148.7	4.4	85.5	620	172.0	308	0.0		0.0	
809	MMT	46,624	389,119	10909.4	4.3	168.8	276	268.4	174	10.3	4527	0.0	
810	MMT	69,905	406,532	15053.1	4.6	78.6	889	150.7	464	1.1	63550	0.0	
811	MMT	54,316	406,505	11711.2	4.6	62.9	864	337.1	161	6.2	8761	0.0	
812	MMT	51,592	390,668	10720.8	4.8	67.7	762	923.6	56	0.0		0.0	
813	MMT	68,444	397,637	14648.5	4.7	84.7	808	161.8	423	0.0		0.0	
814	MMT	53,726	404,156	11276.8	4.8	123.2	436	1,137.5	47	9.2	5840	0.0	
815	MMT	51,184	389,974	11018.3	4.6	98.7	519	1,316.8	39	0.1	511840	0.0	
816	MMT	60,137	400,319	13335.6	4.5	126.0	477	441.5	136	7.8	7710	0.0	
817	MMT	55,415	409,943	11656.5	4.8	71.8	772	715.3	77	0.0		0.0	
818	MMT	51,567	400,925	10619.6	4.9	51.7	997	424.2	122	2.7	19099	0.0	
819	MMT	12,889	365,253	2846.6	4.5	15.4	837	29.4	438	1.6	8056	0.0	
820	MMT	51,317	382,785	11195.1	4.6	87.5	586	557.8	92	0.5	102634	0.0	
821	MMT	62,360	400,089	12513.7	5.0	85.7	728	317.9	196	6.9	9038	0.0	
822	MMT	53,773	397,881	11419.2	4.7	104.6	514	203.2	265	0.0		0.0	

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Domicile facility MMT

Vehicle	Facility	Distance in period	LTD End of period	Propulsion fuel Qty Rate	Oil Qty Rate	Coolant Qty Rate	Trans Fl Qty Rate	DEF Qty Rate
Fixed route revenue vehicle								
FLYER-LF-3SP								
823	MMT	67,842	419,539	13805.9 4.9	65.2 1041	343.6 197	4.9 13845	0.0
824	MMT	52,406	389,445	11144.5 4.7	101.1 518	444.4 118	1.2 43672	0.0
825	MMT	57,295	406,396	12111.6 4.7	102.5 559	179.0 320	0.7 81850	0.0
826	MMT	62,902	395,867	13844.2 4.5	162.1 388	85.6 735	2.9 21690	0.0
827	MMT	53,599	409,201	11659.1 4.6	94.2 569	598.6 90	1.6 33499	0.0
828	MMT	57,133	396,499	14727.8 3.9	154.7 369	1,026.1 56	0.0	0.0
829	MMT	70,399	405,768	15171.5 4.6	182.6 386	714.0 99	1.3 54153	0.0
830	MMT	66,197	391,928	14314.6 4.6	162.4 408	864.8 77	0.0	0.0
831	MMT	80,897	412,979	17698.5 4.6	163.0 496	175.5 461	0.1 808970	0.0
832	MMT	72,517	407,729	15970.3 4.5	249.0 291	312.0 232	3.5 20719	0.0
833	MMT	70,928	409,474	14836.3 4.8	115.0 617	197.9 358	2.3 30838	0.0
834	MMT	76,727	394,039	15849.1 4.8	108.3 708	538.5 142	1.6 47954	0.0
835	MMT	72,499	411,595	16245.1 4.5	122.9 590	330.1 220	0.0	0.0
836	MMT	80,961	441,382	16843.0 4.8	130.1 622	304.7 266	7.6 10653	0.0
837	MMT	85,907	381,032	18074.3 4.8	99.8 861	473.9 181	5.1 16845	0.0
838	MMT	77,390	422,960	16233.0 4.8	167.5 462	357.6 216	4.3 17998	0.0
839	MMT	73,102	413,336	15249.0 4.8	102.7 712	303.5 241	0.0	0.0
840	MMT	76,523	424,888	19343.5 4.0	366.0 209	788.2 97	10.9 7020	0.0
841	MMT	81,459	424,577	16940.8 4.8	200.3 407	290.8 280	3.5 23274	0.0
842	MMT	67,294	416,400	17360.4 3.9	147.4 457	429.3 157	0.0	0.0
843	MMT	81,298	424,781	18062.7 4.5	134.1 606	813.0 100	0.1 812980	0.0
844	MMT	86,724	429,452	18929.1 4.6	93.6 927	537.9 161	2.2 39420	0.0
845	MMT	79,330	432,035	16649.2 4.8	223.0 356	452.3 175	2.7 29381	0.0
846	MMT	86,846	402,351	19629.6 4.4	98.8 879	525.8 165	1.0 86846	0.0
847	MMT	77,982	252,722	20374.3 3.8	116.3 671	108.5 719	4.1 19020	0.0
848	MMT	89,015	388,505	18965.1 4.7	277.2 321	209.3 425	0.2 445075	0.0
850	MMT	93,992	416,931	19521.6 4.8	101.6 925	350.4 268	3.1 30320	0.0
851	MMT	87,239	415,852	18229.2 4.8	132.0 661	146.9 594	0.0	0.0
852	MMT	85,424	403,540	20926.0 4.1	102.2 836	286.5 298	0.3 284747	0.0
853	MMT	92,957	398,093	19356.5 4.8	72.6 1280	271.3 343	0.0	0.0
854	MMT	94,484	407,817	20280.6 4.7	242.8 389	319.9 295	0.1 944840	0.0
855	MMT	97,350	423,415	20872.3 4.7	218.4 446	686.5 142	2.1 46357	0.0
856	MMT	94,511	422,945	20028.9 4.7	259.1 365	260.9 362	3.1 30487	0.0
857	MMT	98,472	427,181	20242.8 4.9	256.6 384	792.5 124	0.1 984720	0.0
858	MMT	89,190	416,125	18177.2 4.9	180.8 493	400.7 223	0.1 891900	0.0
859	MMT	86,216	404,129	18504.3 4.7	223.6 386	87.9 981	1.7 50715	0.0
860	MMT	95,745	419,614	21377.1 4.5	238.5 401	180.5 530	0.0	0.0
800A	MMT	0	0	0.0	0.0	0.0	0.0	0.0

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Fixed route revenue vehicle

FLYER-LF-3SP

Totals		4,036,474	24,158,393	876,919.8		7,771.6		24,397.1		136.2		0.0	
Avg/Aggregates		66,172	396,039		4.6		519		165		29,636		0

SUPPORT

6600	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6604	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6605	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6606	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6607	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6609	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6610	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6611	MMT	0	10	0.0		0.0		0.0		0.0		0.0	
6613	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6615	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6617	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6618	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6619	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6620	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6633	MMT	0	87,066	0.0		0.0		0.0		0.0		0.0	
6634	MMT	0	80,908	0.0		0.0		0.0		0.0		0.0	
6635	MMT	0	97,390	0.0		0.0		0.0		0.0		0.0	
6638	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6651	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6652	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6653	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6654	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6655	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6656	MMT	0	55	0.0		0.0		0.0		0.0		0.0	
6502A	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6547B	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6552D	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6571E	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6572F	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6575G	MMT	0	79,054	0.0		0.0		0.0		0.0		0.0	
6577H	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
6582I	MMT	0	0	0.0		0.0		0.0		0.0		0.0	

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Domicile facility MMT

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Fixed route revenue vehicle

SUPPORT

Totals		0	344,483	0.0		0.0		0.0		0.0		0.0	
Avg/Aggregates		0	10,765		0.0		0		0		0		0

Fixed route revenue vehicle

Totals	36,143,947	77,420,287	681,142.5		30,080.8		71,719.5		603.7		23,394.3		
Averages / Aggregates	127,267	272,607			4.7		1,202		504		59,871		1,545

Paratransit revenue vehicle

ARBOC

755	MMT	117,605	137,527	13128.4	9.0	1.9	61897	15.2	7737	0.4	294013	0.0	
756	MMT	124,212	142,274	11752.7	10.6	0.1	242120	26.6	4670	0.2	621060	0.0	
757	MMT	117,346	134,533	11325.4	10.4	3.6	32596	10.1	11618	0.4	293365	0.0	
758	MMT	111,284	129,986	11073.2	10.0	5.5	20233	16.2	6869	0.1	112840	0.0	

ARBOC

Totals		470,447	544,320	47,279.7		11.1		68.1		1.1		0.0	
Avg/Aggregates		117,612	136,080		10.0		42,383		6,908		427,679		0

Glaval low floor

759	MMT	85,657	85,975	8321.0	10.3	0.9	95174	9.8	8741	0.0		32.6	2629
760	MMT	97,521	97,771	9556.6	10.2	1.0	97521	7.1	13735	0.0		38.5	2536
761	MMT	96,677	96,927	9607.4	10.1	0.0		12.1	7990	0.0		44.8	2159
762	MMT	106,090	106,340	10694.1	9.9	2.5	42436	9.6	11051	0.0		27.7	3833
763	MMT	100,474	100,724	9272.9	10.8	1.3	77288	11.6	8662	0.0		28.5	3527
764	MMT	102,538	102,788	9885.7	10.4	0.2	512690	17.2	5962	0.0		28.1	3650
765	MMT	103,030	103,280	9912.1	10.4	2.7	38159	12.0	8586	0.0		34.8	2965
766	MMT	99,202	99,452	9628.1	10.3	4.8	20667	15.3	6484	0.0		43.6	2275
767	MMT	92,630	92,943	8792.1	10.5	0.0		7.3	12689	0.0		38.6	2402
768	MMT	80,311	80,666	8100.1	9.9	0.0		6.4	12549	0.0		28.5	2823
769	MMT	94,173	94,524	9049.2	10.4	0.0		8.4	11211	0.0		38.8	2428
770	MMT	95,743	96,052	9576.5	10.0	2.2	43520	5.5	17408	0.0		37.9	2525
771	MMT	93,476	93,792	9043.9	10.3	1.5	62317	15.6	5992	0.0		29.8	3141

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Paratransit revenue vehicle

Glaval low floor

Totals	1,247,522	1,251,234	121,439.6			17.1		137.9		0.0		451.9	
Avg/Aggregates	95,963	96,249		10.3		72,955		9,047		0		2,761	

Paratransit revenue vehicle

Totals	1,717,969	1,795,554	168,719.2			28.2		206.0		1.1		451.9	
Averages / Aggregates	101,057	105,621		10.2		60,921		8,340		1,561,790		3,802	

Support vehicles

SUPPORT

6134	MMT	24,769	111,597	1564.7	15.8	0.0		0.0		0.0		0.0	
6160	MMT	17,553	118,888	1393.3	12.6	0.0		0.0		0.0		0.0	
6612	MMT	0	67,640	0.0		0.0		0.0		0.0		0.0	
6614	MMT	0	73,350	0.0		0.0		0.0		0.0		0.0	
6616	MMT	0	57,231	0.0		0.0		0.0		0.0		0.0	
6625	MMT	11,463	89,779	872.9	13.1	0.0		0.0		0.0		0.0	
6626	MMT	4,890	120,043	440.8	11.1	0.0		0.0		0.0		0.0	
6627	MMT	5,221	98,614	433.3	12.0	0.0		0.0		0.0		0.0	
6628	MMT	4,422	96,812	353.1	12.5	0.0		0.0		0.0		0.0	
6629	MMT	9,221	83,416	733.4	12.6	0.0		0.0		0.0		0.0	
6630	MMT	16,296	105,913	1149.8	14.2	0.0		0.0		0.0		0.0	
6631	MMT	13,317	94,895	1035.7	12.9	0.0		0.0		0.0		0.0	
6632	MMT	10,443	82,535	923.5	11.3	0.0		0.0		0.0		0.0	
6636	MMT	0	132,548	0.0		0.0		0.0		0.0		0.0	
6637	MMT	0	109,883	0.0		0.0		0.0		0.0		0.0	
6639	MMT	0	124,487	0.0		0.0		0.0		0.0		0.0	
6640	MMT	0	123,896	0.0		0.0		0.0		0.0		0.0	
6641	MMT	0	135,214	0.0		0.0		0.0		0.0		0.0	
6642	MMT	0	118,000	0.0		0.0		0.0		0.0		0.0	
6643	MMT	0	109,136	0.0		0.0		0.0		0.0		0.0	
6650	MMT	2,997	3,152	150.0	20.0	0.0		0.0		0.0		0.0	
6657	MMT	15,174	61,238	1700.8	8.9	0.0		0.0		0.0		0.0	
6658	MMT	22,568	55,364	2284.0	9.9	0.0		0.0		0.0		0.0	
6664	MMT	44,385	146,199	3780.0	11.7	0.0		0.0		0.0		0.0	
6665	MMT	26,090	93,772	2824.9	9.2	0.0		0.0		0.0		0.0	
6666	MMT	17,984	49,297	1883.2	9.5	0.0		0.0		0.0		0.0	

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Support vehicles

SUPPORT

6667	MMT	10,642	38,749	1827.5	5.8	0.0		0.0		0.0		0.0	
6668	MMT	29,021	36,075	1642.7	17.7	0.0		0.0		0.0		0.0	
6669	MMT	34,473	38,091	1393.0	24.7	0.0		0.0		0.0		0.0	
6670	MMT	52,872	58,318	2594.0	20.4	0.0		0.0		0.0		0.0	
6671	MMT	42,196	64,970	2003.2	21.1	0.0		0.0		0.0		0.0	
6672	MMT	30,624	38,138	1424.9	21.5	0.0		0.0		0.0		0.0	
6673	MMT	57,979	69,123	2831.9	20.5	0.0		0.0		0.0		0.0	
6674	MMT	50,882	64,237	2333.9	21.8	0.0		0.0		0.0		0.0	
6675	MMT	13,265	39,133	542.3	24.5	0.0		0.0		0.0		0.0	
6676	MMT	35,379	49,449	2050.9	17.3	0.0		0.0		0.0		0.0	
6677	MMT	44,859	74,031	2008.6	22.3	0.0		0.0		0.0		0.0	
6678	MMT	48,659	48,722	3643.1	13.4	0.0		0.0		0.0		0.0	
6679	MMT	67,018	67,081	4705.4	14.2	0.0		0.0		0.0		0.0	
6680	MMT	16,121	18,516	2306.2	7.0	0.0		0.0		0.0		0.0	
6681	MMT	51,223	51,223	4191.8	12.2	15.0	3415	0.0		0.0		0.0	
6682	MMT	24,898	24,908	1586.5	15.7	0.0		0.0		0.0		0.0	
6683	MMT	28,451	28,453	1655.1	17.2	0.0		0.0		0.0		0.0	
6684	MMT	24,428	24,430	1216.9	20.1	0.0		0.0		0.0		0.0	
6685	MMT	3,592	3,609	135.3	26.5	0.0		0.0		0.0		0.0	
6686	MMT	16,102	16,119	704.8	22.8	0.0		0.0		0.0		0.0	
6687	MMT	29,367	29,384	1218.8	24.1	0.0		0.0		0.0		0.0	
6688	MMT	4,758	4,798	196.4	24.2	0.0		0.0		0.0		0.0	
6689	MMT	6,885	6,985	539.3	12.8	0.0		0.0		0.0		0.0	
6693	MMT	9,504	108,600	655.6	14.5	0.0		0.0		0.0		0.0	
6549C	MMT	0	0	0.0		0.0		0.0		0.0		0.0	

SUPPORT

Totals	979,991	3,466,041	64,931.4			15.0		0.0		0.0		0.0	
Avg/Aggregates	19,216	67,962		15.1		65,333		0		0		0	

Support vehicles

Totals	979,991	3,466,041	64,931.4			15.0		0.0		0.0		0.0	
Averages / Aggregates	19,216	67,962		15.1		65,333		0		0		0	

Equipment

AB&G

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Equipment

AB&G

1727	MMT	0	10	197.6	0.0	0.0		0.0		0.0		0.0	
BLDG-GEN	MMT			0.0		0.0		0.0		0.0		0.0	
LAWNMOWER	MMT			590.9		0.0		0.0		0.0		0.0	

AB&G

Totals		0	10	788.5		0.0		0.0		0.0		0.0	
Avg/Aggregates		0	3		0.0		0		0		0		0

SUPPORT

0126	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
0127	MMT	0	0	0.0		0.0		0.0		0.0		0.0	
1726	MMT	0	0	0.0		0.0		0.0		0.0		0.0	

SUPPORT

Totals		0	0	0.0		0.0		0.0		0.0		0.0	
Avg/Aggregates		0	0		0.0		0		0		0		0

Equipment

Totals		0	10	788.5		0.0		0.0		0.0		0.0	
Averages / Aggregates		0	2		0.0		0		0		0		0

Grand totals

38,841,907	7,915,581.7	30,124.0	71,925.5	604.8	23,846.2
82,681,892	4.9				

Gallons purchased

	Rev veh diesel	Non-rev veh diesel	Gas
2011	1,235,526	3,754	8,435
2012	1,278,025	2,915	7,745
2013	1,273,534	3,675	8,431
2014	1,310,545	3,925	7,726
2015	1,295,337	3,417	6,526
2016	1,304,891	4,163	7,990

MADISON MUNICIPAL OPERATIONS AND BUILDING ENERGY ANALYSIS – FINAL DRAFT

for the 2015-2016 Budget Cycle



June 2015

Submitted by



MADISON
MUNICIPAL BUILDING ENERGY ANALYSIS

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EXECUTIVE SUMMARY

This high-level energy and cost analysis is intended to quantify energy management strategies identified to help the City of Madison achieve its Georgetown University Energy Prize (GUEP) reduction goal for municipal buildings over the 2-year implementation period. This report also is designed to inform discussion and decision making relative to budgeting for the remainder of 2015 and 2016. In order to estimate potential energy savings, implementation costs, and paybacks, strategy bundles categories have been applied to individual buildings on the basis of general applicability determined from limited site visits and staff interviews and building square footage. Table 1 offers estimated savings, cost, and payback by department and building for aggregated measures across categories. Appendix A includes a full summary table of all buildings and an indication of which bundles have been applied to each to estimate the aggregated buildings numbers presented in Table 1.

The recommendations were developed using utility data and energy use indexes, information gathered from department staff, and limited site visits conducted in March and June 2015. Because the site visits were targeted and did not include all 53 City buildings, recommendations are necessarily extrapolated to all relevant buildings using benchmark end use information and engineering best practices as well as specific information gathered from City staff and during site visits. Some City buildings were not considered in the analysis or Table 1 for a number of reasons:

- In process of re-design or major renovation
- Slated for sale or demolition
- Leased
- Operated by entities besides the City.

These buildings are noted in Appendix B along with a rationale for excluding them.

The framework for this report is to give a snapshot of City facilities by department, acknowledge efficiency efforts already underway, present a utility analysis as a backdrop, and describe and provide a first order quantification of applicable recommendations. The package identified represents good energy management by combining both implementation scope and applicable buildings to balance shorter and longer term projects, which helps achieve an overall payback this is palatable and within an expected range. In addition to presenting overall package estimates, this analysis also compares estimated savings from the overall package compared to City GUEP goals and identifies options for refining the best approach for moving forward. Next steps and subsequent refinements to strategies will continue beyond this initial analysis in the coming months.

The complete package of strategies analyzed in this process is estimated to save \$1,067,900 at a cost of \$12.4 million for a 12-year simple payback. Incentives for a variety of measures are available from Focus on Energy and could defray a portion of implementation costs. For this analysis, where incentives are

available, the assumption is that they would reduce first costs from 5 to 20 percent, depending on the measure. The paybacks in Table 1 reflect this assumption.

Energy savings that could be realized if all of these efforts are implemented are estimated to be on the order of **50.4 million** kBtu, which is 18 percent below 2014 baseline energy consumption and would exceed the projected municipal savings for the City's Georgetown University Energy Prize goal by 40 percent. During the program plan development phase of the GUEP, a target reduction of 37 million kBtu by the end of 2016 was identified.

Table 1 presents estimated savings, costs, and payback for each building included in the analysis and totaled by department. Appendix A includes a similar table that also indicates which strategies are applied to each building.

Table 1: Estimated Cost and Savings by Department

<i>Building</i>	<i>Cumulative Summary</i>			
	Savings (\$)	Cost (\$)	Savings (kBtu)	Payback (yrs)
Engineering				
Engineering Services Building	\$2,900	\$56,800	148,000	20
Fairchild	\$3,900	\$320,800	407,000	82
Engineering Sub-total	\$6,800	\$377,600	555,000	56
Fire				
Station #2	\$800	\$8,300	48,000	10
Station #3	\$2,800	\$55,100	229,000	20
Station #4	\$1,900	\$43,200	132,000	23
Station #5	\$3,200	\$55,300	321,000	17
Station #6	\$2,100	\$49,600	169,000	24
Station #7	\$1,400	\$46,500	108,000	33
Station #8	\$1,400	\$37,300	84,000	27
Station #11	\$2,000	\$42,900	143,000	21
Station #12	\$1,800	\$11,600	88,000	6
Station #13	\$200	\$4,500	4,000	23
Fire Sub-total	\$17,600	\$354,300	1,326,000	20
Library				
Alicia Ashman	\$2,200	\$21,100	96,000	10
Central Library	\$6,200	\$39,300	160,000	6
Goodman South	\$800	\$4,000	20,000	5
Monroe Street	\$1,600	\$17,700	85,000	11
Sequoia Branch	\$3,000	\$16,100	118,000	5
Library Sub-total	\$13,800	\$98,200	361,000	7

<i>Building</i>	<i>Cumulative Summary</i>			
	Savings (\$)	Cost (\$)	Savings (kBtu)	Payback (yrs)
Metro				
Metro Maintenance	\$77,100	\$541,800	6,000,000	7
Monona Terrace	\$18,900	\$345,400	687,000	18
Parks				
Goodman Pool	\$300	\$1,000	7,000	3
Olbrich Gardens	\$25,900	\$328,800	2,469,000	13
Warner Park Community	\$12,600	\$224,000	684,000	18
Parks Maintenance	\$7,300	\$82,500	371,000	11
Warner Park Shelter Maint.	\$6,900	\$60,900	63,000	9
Parks Sub-total	\$53,000	\$697,200	3,594,000	13
Police				
East District Police	\$3,400	\$63,000	197,000	19
West District Police	\$3,200	\$81,100	245,000	25
South District Police	\$4,300	\$48,400	224,000	11
North District Police	\$3,100	\$35,300	135,000	11
Police Training Facility	\$9,900	\$187,300	457,000	19
Police Sub-total	\$23,900	\$415,100	1,258,000	17
Streets				
East Streets Maintenance	\$14,500	\$932,700	1,579,000	64
Transfer Station	\$5,900	\$97,200	590,000	16
West Streets Maintenance	\$8,600	\$474,500	839,000	55
West Streets Storage	\$200	\$11,500	25,000	58
Streets Sub-total	\$29,200	\$1,515,900	3,033,000	52
Traffic Engineering/ Parking				
Capitol Square North	\$25,800	\$184,100	925,000	7
Government East	\$16,900	\$117,300	612,000	7
Overture Center	\$15,200	\$117,000	530,000	8
State Street Capitol	\$36,200	\$194,400	1,366,000	5
State Street Frances	\$15,400	\$95,400	562,000	6
State Street Lake	\$11,300	\$106,600	402,000	9
Traffic Operations	\$17,400	\$224,900	668,000	13

<i>Building</i>	<i>Cumulative Summary</i>			
	Savings (\$)	Cost (\$)	Savings (kBtu)	Payback (yrs)
Traffic Engineering/ Parking Sub-total	\$138,200	\$1,039,700	4,397,000	8
Water Utility				
John B. Heim Administration	\$4,300	\$20,200	164,000	5
Paterson Maintenance	\$7,000	\$65,600	313,000	9
Paterson Vehicle Storage	\$6,400	\$77,600	260,000	12
Pump Stations	\$2,300	\$23,700	111,000	10
Water Utility Sub- total	\$20,000	\$187,100	848,000	9
Total (Buildings)	\$398,500	\$5,572,300	22,845,000	14
Water Distribution	\$326,900	\$1,361,000	12,052,000	4
Street Lights	\$342,500	\$5,488,200	16,461,000	16
Grand Total	\$1,067,900	\$12,421,500	51,358,000	12

In addition to considering energy efficiency on a building-by-building basis, the City also could consider individual strategies for economies of scale and more rapid implementation. Table 2 presents the same savings estimates captured in the previous table but totals them by measure category rather than by building. Again, Appendix A provides a complete building summary with savings and measure categories that were applied to each.

Table 2: Estimated Cost and Savings by Category

<i>Building</i>	<i>kWh saved</i>	<i>therms saved</i>	<i>kBtu saved</i>	<i>Total Savings (\$)</i>	<i>Total Cost (\$)</i>	<i>Simple Payback (years)</i>
Interior Lighting	1,755,200	0	5,989,000	\$179,800	\$1,014,500	6
HVAC	250,200	65,500	7,404,000	\$75,400	\$2,560,700	34
Controls	430,200	33,600	4,828,000	\$73,200	\$923,200	13
Plug Load	264,100	0	901,000	\$31,500	\$308,800	10
Envelope	133,900	32,700	3,727,000	\$38,900	\$764,900	20
Water Distribution	3,532,140	0	12,052,000	\$326,900	\$1,361,000	4
Street Lights	4,824,300	0	16,461,000	\$342,500	\$5,488,200	16
Total*	11,190,058	131,800	51,362,000	\$1,068,200	\$12,421,300	12
*Totals do not match exactly with Table 1 because of rounding in calculations.						

APPROACH AND NEXT STEPS

The package of strategies analyzed and summarized in this report exceed the City's GUEP reduction goal for municipal buildings, and the consultant and the City can work together to make informed, prioritized, and pragmatic decisions about the best use of implementation resources over the next few months. There are several factors that will necessarily influence decision making, some of which are outlined below. Others may evolve and also should be considered. Simple sensitivity analyses are included in this section to address the criteria outlined below and to demonstrate the impacts related to each of the criterion.

City of Madison's Internal Goals

Because the overall package of strategies presented here exceeds the City's GUEP reduction goal for municipal buildings, it has options for prioritizing how to achieve its goal and meet its GUEP commitment. For example, capital expenditures may need to have a particular payback (within 10 years), implementation costs may need to fall within certain limits, or industry best practices that produce balance over time may all be factors. These internal filters for decision making can be applied, along with the criteria described below, to dial in a reasonable approach to implementation.

Prioritization

There are a number of ways to modify outcomes to meet City goals, primary among them are adding or eliminating strategy scope or eliminating buildings from full scope consideration. While all strategies here have long-term value, certain strategies have much higher paybacks than others (HVAC and envelope improvements, for example) and could be removed to improve overall payback. In addition, certain buildings with particularly long paybacks or other factors also can be removed to improve overall estimates.

Three simple sensitivity analyses included in Table 3 demonstrate the impacts related to adjustments related to scope and buildings.

Table 3: Scope and Building Adjustment Examples

	<i>kBtu Saved</i>	<i>Total Savings (\$)</i>	<i>Total Cost (\$)</i>	<i>Simple Payback (years)</i>
Package w/out HVAC & Envelope Improvements	40,230,700	\$953,900	\$9,095,700	10
Package w/out Street Light Upgrade	32,080,200	\$725,700	\$6,933,100	10
Package w/out Buildings with Paybacks Beyond 15 Years	44,310,000	\$968,900	\$9,292,800	10

Realistic Execution

Finally, on the basis of internal City capacity, community contractor capacity, and funding, there are some strategies that are more realistic to implement in the remainder of 2015 and 2016. Rules of thumb suggest it is reasonable to expect the following three strategies could be implemented in this timeframe:

- Building lighting upgrades
- Street light upgrades
- Water process upgrades (50 percent of target)

The impacts of implementing these strategies to the level indicated are estimated in Table 4.

Table 4: Execution Adjustment Example

	<i>kBtu Saved</i>	<i>Total Savings (\$)</i>	<i>Total Cost (\$)</i>	<i>Simple Payback (years)</i>
Package of Building Lighting, Street Lights, and Half of Water Process Scope	28,475,700	\$685,750	\$7,183,200	11

Next Steps

The following sections include the baseline for all of the estimates in this analysis, including basic facility descriptions by department, utility baseline, and detailed strategy descriptions and related savings and cost analyses.

Over the next 2 months and on the basis of the detailed information provided and the approach determined using the criteria described above (or other criteria determined to be relevant by City staff), the analysis will be refined to target strategies and buildings that meet the City goals.

FACILITIES AND OPERATIONS OVERVIEW

The City of Madison employs almost 2,800 Full Time Equivalent (FTE) staff members (in 2014) and operates almost 3.2 million square feet of building space. The City facilities receive both natural gas and electricity services to over 460 separate electric meters. Madison Gas and Electric provides all natural gas service and the majority of electricity service to City facilities. A small portion of electricity is supplied by Alliant Energy. The table below provides a summary of the municipal facilities occupied and operated by the city, broken down by agency. Generally, the facilities are operated by the occupying agency, however various assistance is provided by both Facilities Operations (FO) and Facilities Management (FM).

A detailed table of all City buildings by department, with square footages and notes on operations, is provided in Appendix A.

As part of this analysis, a number of buildings were selected for high-level site visits in March and June of 2015 on the basis of their energy use intensities (EUIs) (higher), their total energy consumption, staff suggestions, and an effort to get a sense for various building types.

Engineering

Engineering includes Madison Municipal Building, a general office building and shop, and one maintenance building. Madison Municipal Building will be undergoing a major renovation that includes a focus on energy efficiency and is therefore not included in this analysis. The Engineering Services Building is often used as a test case for technologies and operational efficiencies that can be applied to other City buildings. An addition is currently being planned for the Engineering Services shop and the main boiler will be replaced as part of the project. Heating and cooling for the Engineering Services building are provided by a single rooftop unit (RTU) and boiler that serves a variable air volume (VAV) distribution system. The system is controlled by a building automation system (BAS) that includes scheduling for unoccupied hours, temperature resets, and occupancy sensors and CO2 sensors for adjusting airflow when a space is occupied.

Table 5: Engineering Building Details

<i>Building</i>	<i>Square Footage</i>	<i>EUI (kBtu/sq ft)</i>
Engineering Services Building	42,742	53.93
Fairchild	52,329	40.00

Fire

This department has one vehicle Maintenance building and 13 individual fire stations that are maintained and monitored by FO. FM supports design and construction administration (including punch list and close-out) for all new construction and substantial renovations. Fire Stations 12 and 13 are LEED NC Platinum (2010) and EBOM Gold (2014) Certified, respectively. Fire Station 1 is currently being remodeled, Fire Stations 9 and 10 are in need of major remodel or replacement, and the Fire Maintenance building is slated to be demolished. There is a variety of HVAC systems in these buildings, although and most have residential style split system furnaces and air conditioners. Most of the HVAC systems are controlled by local thermostats and new equipment, such as boilers, are controlled by the BAS. Most lighting has been upgraded to T8 fluorescents.

Table 6: Fire Building Details

<i>Building</i>	<i>Square Footage</i>	<i>EUI (kBtu/sq ft)</i>
Station #2	6,225	113.80
Station #3	8,372	112.55
Station #4	10,328	76.34
Station #5	8,399	228.80

<i>Building</i>	<i>Square Footage</i>	<i>EUI (kBtu/sq ft)</i>
Station #6	11,874	79.25
Station #7	12,539	61.23
Station #8	10,054	67.25
Station #10	5,959	118.45
Station #11	11,204	103.83
Station #12	12,500	49.76
Station #13	13,724	12.30

Fleet Services

Fleet Services has a vehicle maintenance building that is 52,840 square feet and is maintained and monitored by FO. This building is schedule to be sold or demolished and a new facility built and is not included in this analysis.

Health

This department has a single building, East Health Hawthorne, which is leased and is scheduled to be vacated in the next 5 years and is not included in this analysis.

Library

There are nine libraries, four of which are in leased buildings. Libraries has its own facilities and maintenance staff and manages its own operations, with some support from FM for design, construction, and administration (including punch list and close-out) for all new construction and substantial renovation projects. The Central Library (EBOM Gold, 2014), Goodman South Library (CI Gold, 2010), and Sequoya Branch Library (CI Silver 2010) are all LEED Certified. These three buildings are on a central Honeywell BAS, including controls for temperature setpoints and equipment schedules. Most libraries have upgraded T8 fluorescent or LED lighting with occupancy sensors and some daylight controls. The Central Library lighting is scheduled by a lighting control system.

Heating and cooling systems are a combination of roof-top units, furnaces, chillers, and boilers. Also, plug loads can be higher for these buildings given the number of computers.

Table 7: Library Building Details

<i>Building</i>	<i>Square Footage</i>	<i>EUI (kBtu/sq ft)</i>	<i>Leased</i>
Alicia Ashman	11,829	85.19	
Central Library	119,200	59.52	
Goodman South	12,010	83.99	
Lakeview	9,335	55.67	X

<i>Building</i>	<i>Square Footage</i>	<i>EUI (kBtu/sq ft)</i>	<i>Leased</i>
Meadowridge	17,565	25.08	X
Monroe Street	2,300	146.58	
Pinney	11,200	97.84	X
Sequoia Branch	20,000	131.98	

Metro Transit

Metro Transit manages its own operations with minimal support from FM for design and construction administration (including punch list and close-out) for all new construction and substantial renovations. It has one facility – the Metro Maintenance building – that is 282,500 square feet with an EUI of 160 kBtu per square foot, which indicates high energy use. The Metro Maintenance building has offices, maintenance shop, and bus storage space. Heating is provided by 2 large boilers that serve a network of 17 heating ventilator (HV) make-up air units. There are 18 exhaust fans to purge vehicle exhaust and assist with ventilation needs. Most equipment is controlled manually as the pneumatic control system is no longer functional. Only a few spaces have split system air conditioners. Other equipment includes a new variable frequency drive (VFD) air compressor, cyclone vacuum system, and wash station.

Monona Terrace

Monona Terrace is a conference and convention center with dedicated staff that manages operations with some support from FM for design and construction administration for all substantial renovations. Monona Terrace is LEED EB Silver (2007) Certified and is currently working toward Gold level recertification. The EUI for the building is 48 kBtu per square foot. Monona Terrace has district steam and chillers with air handlers that serve a VAV system. VAV boxes are being converted to direct digital controls (DDC).

Parks

Parks facilities include a newer maintenance/administration building, out buildings for storage and maintenance equipment, a pool building, and Olbrich Gardens, which includes the conservancy (heated like a tropical rainforest). There is a planned upgrade for mechanical systems and an additional educational center at Olbrich Gardens in 2015. Goodman Pool and Olbrich Gardens have the highest EUIs of any City facilities. Parks has its own maintenance staff but also gets some support from FM for design and construction administration (including punch list and close-out) for all new construction and substantial renovations. The maintenance/administration building is LEED NC Silver (2010) Certified.

There are a variety of HVAC systems and the main buildings have some building automation. Some out building, shelter, path, and parking lighting has been converted to LED.

Table 8: Parks Building Details

<i>Building</i>	<i>Square Footage</i>	<i>EUI (kBtu/sq ft)</i>
Goodman Pool	6,117	292.17
Olbrich Gardens	47,553	207.61
Warner Park Community	31,200	85.75
Parks Maintenance	43,300	99.22
Warner Park Shelter Maint.	35,000	23.99

Police

The Police department has four stations, a storage facility, and a training facility that are maintained and monitored by FO with support from FM for design and construction administration (including punch list and close-out) for all new construction and substantial renovations. The stations have standard efficiency boilers (older and newer units), DX air conditioning, and VAV air distribution systems. Lighting is mostly T8 fluorescents and there are occupancy sensors in some spaces.

Table 9: Police Building Details

<i>Building</i>	<i>Square Footage</i>	<i>EUI (kBtu/sq ft)</i>
East District Police	14,640	87.94
West District Police	12,100	92.74
South District Police	11,237	125.86
North District Police	8,195	102.28
Police Training Facility	39,186	71.93

Senior Center

The Madison Senior Center occupies space in a larger multifamily building (about 20,000 square feet) in downtown Madison. This space is maintained by FO and has an EUI of 52 kBtu per square foot.

Streets and Recycling

Streets and Recycling maintains streets and also handles residential waste and recycling. Streets facilities are maintained by FM. The East Streets Maintenance facility has a dual duct HVAC system that is in need of replacement.

Table 10: Streets Building Details

<i>Building</i>	<i>Square Footage</i>	<i>EUI (kBtu/sq ft)</i>
East Streets Maintenance	149,234	42
Transfer Station	28,800	60
West Streets Maintenance	75,922	44
West Streets Storage	22,953	30

Traffic Engineering/Parking

Traffic Engineering is responsible for street traffic management and six parking garages. This department manages its own operations with some support from FO. There are plans to phase in LED lighting in the parking garages over the next couple of years to replace high pressure sodium fixtures and also to install CO2 monitoring. The parking garages have cashier booths that are heated with full-size natural gas furnaces.

Table 11: Traffic Engineering/parking Building Details

<i>Building</i>	<i>Square Footage</i>	<i>EUI (kBtu/sq ft)</i>
Capitol Square North	324,500	7.34
Government East	206,700	6.19
Overture Center	206,200	5.30
State Street Capitol	342,720	9.29
State Street Frances	168,139	7.99
State Street Lake	187,850	5.81
Traffic Operations	37,877	50.17

Water Utility

Madison Water Utility has an administration building, storage and maintenance buildings, and 22 well sites. Water supply and distribution operations consist of groundwater well pumps, water treatment, tank and tower water storage, and booster pumps that provide pressurized potable water throughout the city. Well sites vary in age and typically have one or two booster pumps. Approximately 30 to 50 percent of the pumps are controlled by VFDs.

Table 12: Water Utility Facility Details

<i>Building</i>	<i>Square Footage</i>	<i>EUI (kBtu/sq ft)</i>
Utility Building		
John B. Heim Administration	25,148	151.35
Paterson Maintenance	22,000	99.44
Paterson Vehicle Storage	26,038	75.84
Pump Stations	n/a	n/a

CURRENT INITIATIVES

The City has taken good first steps toward improving the energy efficiency of its operations. The following is a summary of some of these efforts.

HVAC and Mechanical Equipment

City-wide, many of the boilers and hot water heaters have been replaced with condensing and modulating models to improve efficiency and allow for easier operations. For newer buildings and recent renovations, the City also is installing better insulation, windows, and air sealing. In locations with significant hot water use, solar hot water systems have been installed. Solar photovoltaic (PV) systems also have been installed in various locations. Additionally, many pumps and fans throughout the City are set up with variable frequency drives (VFDs) while newer DX cooling systems have variable speed compressors.

Lighting

The majority of lighting throughout City buildings has been upgraded to higher efficiency T8 linear fluorescent fixtures or LED fixtures. Additionally, the Engineering Services Building has been a testing ground for various LED technologies, and LED upgrades to traffic signals and street lights are being made.

Controls

Many buildings operated by the City are controlled by a building automation system (BAS). The Engineering Services Building is used to test different operations and controls. This building is set up with an occupancy schedule that adjusts the heating and cooling temperatures accordingly as well as motion and CO2 sensors. The goal is to have all City buildings on the BAS system in the near future and to have the same level of control as the Engineering Services Building.

In addition, the City also has added lighting controls in many location. Whenever lighting is upgraded within a facility, motion sensors are installed with the replacement. Along with upgrading street lights

from HID to LED, in many instances motion sensors have been installed and stepped dimming ballasts have been implemented.

Data Tracking and Monitoring

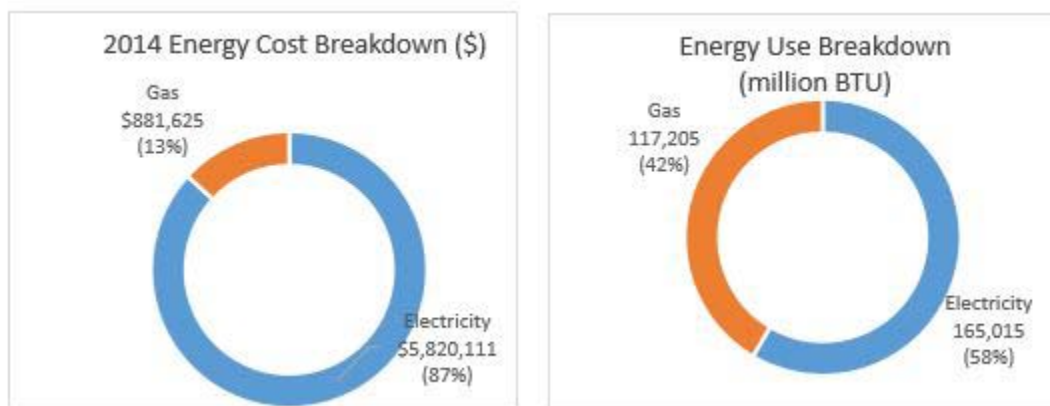
There are a number of ways the City can track and monitor its data, including the following:

- EnergyCAP (historical data for most buildings dating back to 2009)
- Energy Stewards – limited participation and engagement
- Portfolio manager
- BAS system has some capabilities –SOME buildings have pulse meters
- Pilot with Madison Gas and Electric where the City has a web interface using the pulse meters to see 15 minute data in order to better manage demand.

ENERGY ANALYSIS

Current Overall Performance

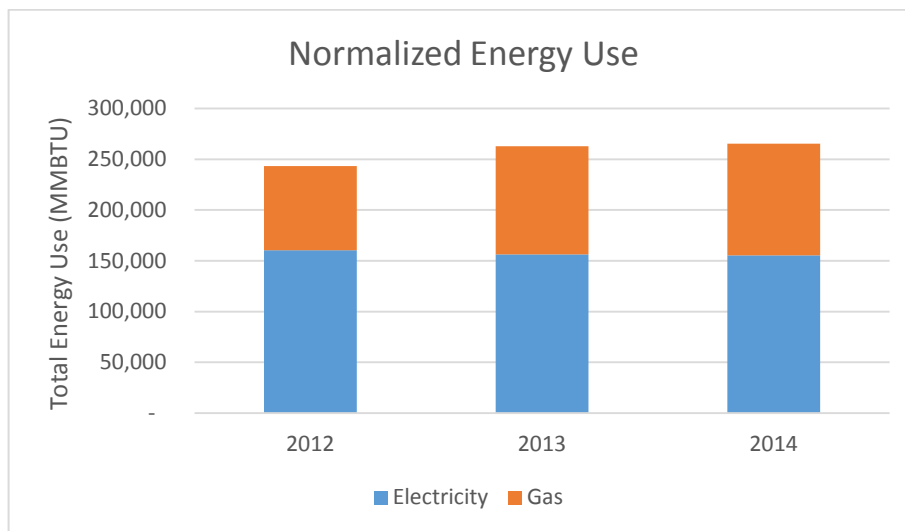
In 2014, the City of Madison spent \$6.7 million on electricity and natural gas utilities, about 87 percent of which was spent on electricity serving the City's nearly 3.176 million square feet of facilities and assets, including streetlights. The remaining 13 percent was for natural gas consumption. The estimated energy unit costs in 2014 were \$0.12 per kWh for electricity and \$0.75 per therm for natural gas. For comparison, in 2013, the City spent \$7 million on electricity and natural gas, 90 percent of which was spent on electricity and 10 percent on natural gas.



The total energy consumption in 2014 was 282 million BTU, split almost 60/40 between electricity and natural gas, respectively.

Based on weather normalized data, the City observed an 8% increase in energy consumption from 2012 to 2013 followed by a 1% increase from 2013 to 2014.

Figure 2: Energy Use Comparison 2012-2014



The following two charts compare energy use within the different City agencies. Operations for the Water Utility consumed almost 40 percent of the electricity city-wide in 2014, about 2 times greater than the next largest contributing agency, Traffic Engineering/Parking. The majority of use for the Traffic agency is streetlights and traffic signals. Monona Terrace is the next largest at 8 percent of total electricity consumption.

When evaluating natural gas consumption, the Metro Department represented 31 percent of total consumption in 2014 largely due to the age and inefficiency of the Metro Maintenance building. The other largest contributor to natural gas consumption is the Parks Department at 19 percent of total consumption.

Building Level Energy Use

At the building level, Tables 11 and 12 list the top 10 buildings for 2014 with the highest total energy use and energy use intensity (EUI), respectively. From a total energy use perspective, the Metro Maintenance building is by far the largest consumer at 16 percent of total energy use for the city. This is likely due to the age and inefficiency issues mentioned earlier that are contributing to the significant natural gas consumption for the Metro agency. Overall, the top 10 buildings made up almost 40 percent of total energy use in the city in 2014.

The average EUI for all City buildings is 89 kBtu per square foot while the average for the top 10 buildings is 175 kBtu per square foot – over twice as high as the overall average. Goodman Pool has the highest EUI at 292 kBtu per square foot; however, this value includes all building and process loads, such as pool water heating.

Figure 3: 2014 Electricity Use by Department

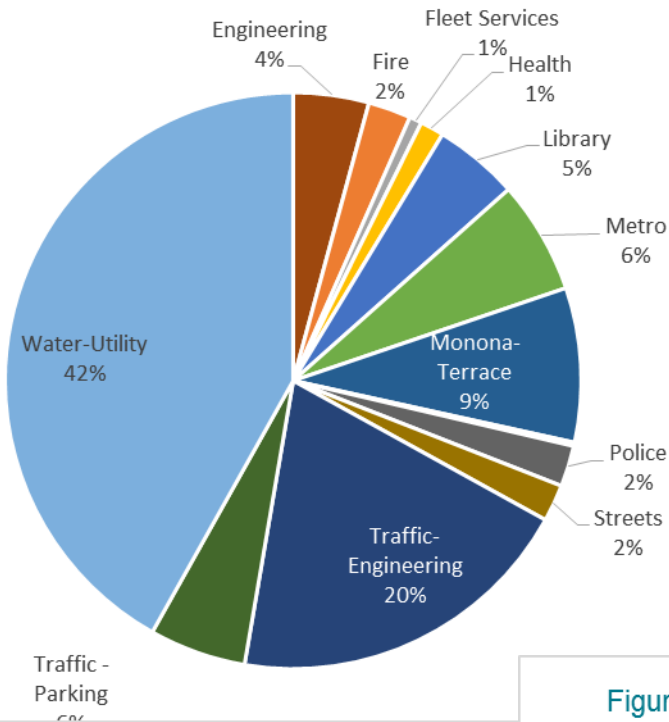


Figure 4: 2014 Natural Gas Use by Department

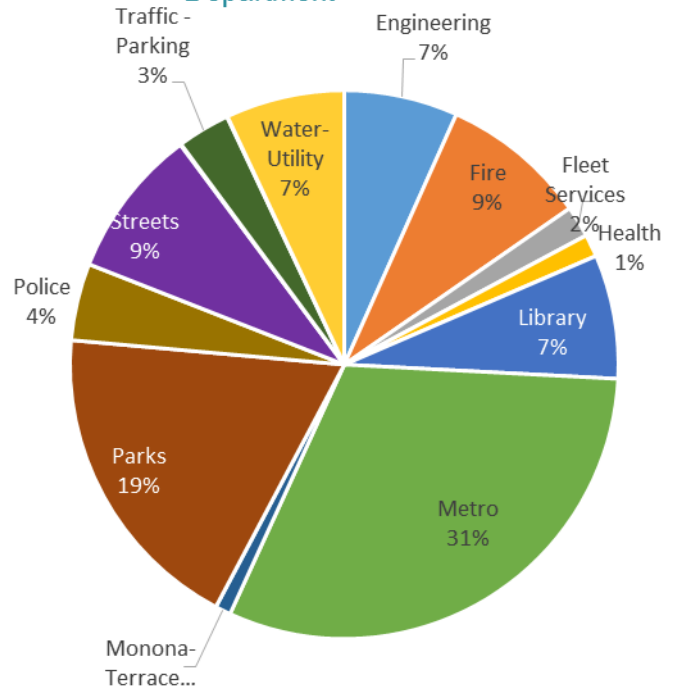


Table 13: Top 10 Energy Users

<i>Building</i>	<i>Square Footage</i>	<i>2014 Total Energy Use (MMBtu)</i>	<i>Percentage of Total</i>
Metro Maintenance	282,250	45,541	16%
Monona Terrace	303,000	14,461	5%
Olbrich Gardens	47,553	10,160	4%
Madison Municipal Building	74,154	6,912	2%
Central Library	119,200	7,402	3%
East Streets Maintenance	149,234	6,761	2%
Parks Maintenance	43,300	4,467	2%
Fire Station #1	24,000	2,504	1%
West Streets Maintenance	75,922	3,736	1%
Administration - John B Heim	25,148	3,846	1%
Total		105,792	37%

Table 14: Top 10 Energy Use Intensities

<i>Building</i>	<i>Square Footage</i>	<i>2014 EUI (kBtu/sf)</i>	<i>Percentage of Average</i>
Goodman Pool	6,117	292	167%
Fire Station #5	8,399	229	131%
Olbrich Gardens	47,553	208	119%
East Health Hawthorne	11,500	181	103%
Metro Maintenance	282,250	160	91%
Admin- JOHN B. HEIM	25,148	151	87%
Monroe Street Library	2,300	147	84%
Sequoia Branch	20,000	132	75%
South District Police	11,237	126	72%
Fire Station #9	5,564	124	71%
Average		175	

RECOMMENDED ENERGY CONSERVATION STRATEGIES

Approach

Given the objective of this analysis, which is to inform the budgeting process with an eye toward efficiency upgrades that can be implemented in 2015 and 2016, this section describes a number of applicable conservation measures that were developed on the basis of interviews with City staff members, limited building site visits in March and June of 2015, analysis of building energy use, and industry standards. The estimated savings and costs for the measures here were developed using benchmark end-use data for similar building types, industry rules of thumb for potential savings, cost ranges for implementation, and availability of incentives from the utility. In addition, based on information gathered during the interview and site visits, the savings and

costs have been applied to reflect estimated level of effort per building given existing projects already completed or partially completed and relative applicability. These estimates are necessarily high-level because of the variations among buildings and uses therein. In addition, costing information for process (water distribution) measures is evolving and the numbers provided will necessarily be revised once all the information is available. Furthermore, the costs estimated for this level of analysis include neither design/engineering cost factors nor operation and maintenance cost savings, which will be added during future phases of the analysis based on prioritization guidance provided by the City and additional technical guidance from the consultant. Next steps will include refining the approach as well as specific related categories of measures.

The recommended measures are bundled into six categories.

- Lighting (street light conversion a subset)
- Heating, Ventilation, and Cooling (HVAC)
- Controls
- Plug Loads
- Envelope Improvements
- Process (related to water distribution)

Table 11 (also included as Table 1 in the Executive Summary) summarizes estimated savings, cost, and payback by department. A detailed table of building level savings, cost, and payback estimates is provided in Appendix B.

Table 15: Estimated Cost and Savings by Department

<i>Building</i>	<i>Cumulative Summary</i>			
	Savings (\$)	Cost (\$)	Savings (kBtu)	Payback (yrs)
Engineering				
Engineering Services Building	\$2,900	\$56,800	148,000	20
Fairchild	\$3,900	\$320,800	407,000	82
Engineering Sub-total	\$6,800	\$377,600	555,000	56
Fire				
Station #2	\$800	\$8,300	48,000	10
Station #3	\$2,800	\$55,100	229,000	20
Station #4	\$1,900	\$43,200	132,000	23
Station #5	\$3,200	\$55,300	321,000	17
Station #6	\$2,100	\$49,600	169,000	24
Station #7	\$1,400	\$46,500	108,000	33
Station #8	\$1,400	\$37,300	84,000	27

<i>Building</i>	<i>Cumulative Summary</i>			
	Savings (\$)	Cost (\$)	Savings (kBtu)	Payback (yrs)
Station #11	\$2,000	\$42,900	143,000	21
Station #12	\$1,800	\$11,600	88,000	6
Station #13	\$200	\$4,500	4,000	23
Fire Sub-total	\$17,600	\$354,300	1,326,000	20
Library				
Alicia Ashman	\$2,200	\$21,100	96,000	10
Central Library	\$6,200	\$39,300	160,000	6
Goodman South	\$800	\$4,000	20,000	5
Monroe Street	\$1,600	\$17,700	85,000	11
Sequoia Branch	\$3,000	\$16,100	118,000	5
Library Sub-total	\$13,800	\$98,200	361,000	7
Metro				
Metro Maintenance	\$77,100	\$541,800	6,000,000	7
Monona Terrace	\$18,900	\$345,400	687,000	18
Parks				
Goodman Pool	\$300	\$1,000	7,000	3
Olbrich Gardens	\$25,900	\$328,800	2,469,000	13
Warner Park Community	\$12,600	\$224,000	684,000	18
Parks Maintenance	\$7,300	\$82,500	371,000	11
Warner Park Shelter Maint.	\$6,900	\$60,900	63,000	9
Parks Sub-total	\$53,000	\$697,200	3,594,000	13
Police				
East District Police	\$3,400	\$63,000	197,000	19
West District Police	\$3,200	\$81,100	245,000	25
South District Police	\$4,300	\$48,400	224,000	11
North District Police	\$3,100	\$35,300	135,000	11
Police Training Facility	\$9,900	\$187,300	457,000	19
Police Sub-total	\$23,900	\$415,100	1,258,000	17
Streets				
East Streets Maintenance	\$14,500	\$932,700	1,579,000	64
Transfer Station	\$5,900	\$97,200	590,000	16
West Streets Maintenance	\$8,600	\$474,500	839,000	55
West Streets Storage	\$200	\$11,500	25,000	58
Streets Sub-total	\$29,200	\$1,515,900	3,033,000	52

<i>Building</i>	<i>Cumulative Summary</i>			
	Savings (\$)	Cost (\$)	Savings (kBtu)	Payback (yrs)
Traffic Engineering/ Parking				
Capitol Square North	\$25,800	\$184,100	925,000	7
Government East	\$16,900	\$117,300	612,000	7
Overture Center	\$15,200	\$117,000	530,000	8
State Street Capitol	\$36,200	\$194,400	1,366,000	5
State Street Frances	\$15,400	\$95,400	562,000	6
State Street Lake	\$11,300	\$106,600	402,000	9
Traffic Operations	\$17,400	\$224,900	668,000	13
Traffic Engineering/ Parking Sub-total	\$138,200	\$1,039,700	4,397,000	8
Water Utility				
John B. Heim Administration	\$4,300	\$20,200	164,000	5
Paterson Maintenance	\$7,000	\$65,600	313,000	9
Paterson Vehicle Storage	\$6,400	\$77,600	260,000	12
Pump Stations	\$2,300	\$23,700	111,000	10
Water Utility Sub-total	\$20,000	\$187,100	848,000	9
Total (Buildings)	\$398,500	\$5,572,300	22,845,000	14
Water Distribution	\$326,900	\$1,361,000	12,052,000	4
Street Lights	\$342,500	\$5,488,200	16,461,000	16
Grand Total	\$1,067,900	\$12,421,500	51,358,000	12

Each category is described in its own section here and necessarily includes a variety of conservation measures that are applicable for City buildings. In addition, there is a table in each category that includes those buildings for which the measure may be applicable along with the estimated savings, cost, and payback for the measures in the category. These estimates are based on building square footage, building energy use data, building type, level of measure applicability (high, medium, or low), and potential for incentives.

Lighting Upgrades

For most commercial buildings, lighting is a significant portion of utility costs. Depending on the age and envelope of the building, electricity for lighting is typically 30 to 40 percent of total electricity use. Savings from upgrades to lighting typically pay back first costs in 3 to 7 years depending on the technologies used, the systems replaced, and the availability of utility rebates. The table below presents

estimated savings, costs, and simple payback for applicable City buildings based on building type and inferred level of opportunity.

Lighting opportunities that were identified during site visits and from interviews with City staff members include the following:

- T12 linear fluorescents replacement
- T8 linear fluorescent replacement
- Parking garage high intensity discharge (HID) replacement

Other exterior lighting also could be targeted for additional savings but is not included in this analysis. Once priority buildings are identified, exterior lighting can be included in lighting refinements.

Table 16: Estimated Saving by Building - Lighting

<i>Building</i>	<i>kWh saved</i>	<i>Total Savings (\$)</i>	<i>Total Cost (\$)</i>	<i>Simple Payback (years)</i>
Total	1,755,200	\$179,800	\$1,014,500	6
Station #11	5,900	\$700	\$6,700	10
Station #12	17,900	\$1,300	\$7,500	6
Monroe Street	2,400	\$400	\$1,400	4
Metro Maintenance	267,000	\$25,400	\$80,000	3
Warner Park Community	28,600	\$4,100	\$18,700	5
Parks Maintenance	26,800	\$3,500	\$26,000	7
Warner Park Shelter Maint.	2,100	\$4,100	\$21,000	5
East District Police	8,900	\$800	\$8,800	11
West District Police	10,000	\$600	\$7,300	13
South District Police	9,500	\$1,000	\$6,700	6
North District Police	7,400	\$800	\$4,900	6
Police Training Facility	12,300	\$1,800	\$23,500	13
Capitol Square North	257,100	\$24,500	\$161,000	7
Government East	169,100	\$16,000	\$102,500	6
Overture Center	146,200	\$14,400	\$102,300	7
State Street Capitol	374,000	\$34,300	\$170,000	5
State Street Frances	153,700	\$14,600	\$83,400	6
State Street Lake	108,500	\$10,700	\$93,200	9
Traffic Operations	82,700	\$11,800	\$18,800	2
Paterson Maintenance	31,800	\$3,900	\$26,400	7
Paterson Vehicle Storage	21,600	\$3,700	\$31,200	8
Pump Stations	11,700	\$1,400	\$13,200	10

Street Lighting

The City has an inventory of street lights that fall into three categories: utility owned and maintained (primarily residential), City owned and maintained (downtown), and City owned but utility maintained (underground residential). An effort to begin upgrading the lights to LED began about 4 years ago. This is a concerted project that the City could undertake to complete sooner rather than later for economies of scale and to capture early savings. With more than 12,000 street lights and an estimated energy savings of 25 percent from using LED technologies, estimated savings are outlined in Table 17.

Table 17: Estimated Saving by Building – Street Lighting

<i>Facility</i>	<i>kWh saved</i>	<i>Total Savings (\$)</i>	<i>Total Cost (\$)</i>	<i>Simple Payback (years)</i>
Street Lights	4,824,300	\$342,500	\$5,488,200	16

Heating, Ventilation, and Cooling Improvements

Heating, ventilation, and cooling (HVAC) systems in commercial buildings can be varied and complex and often account for as much as 50 percent of a building's energy use (electricity and natural gas combined). Because building systems vary so widely, estimated savings from improvements vary widely also depending on the types of existing systems, types of upgrades, and availability of utility rebates. For example, equipment upgrades to higher efficiency units may save 5 to 15% of energy used while re- or retro-commissioning (including scheduling) savings may range from 5 to 30%. In addition, costs for measures such as tighter scheduling and equipment optimization tend to have lower costs and paybacks, while equipment replacement tends to have much higher costs and paybacks.

HVAC improvements involve any project aiming to improve the efficiency of an HVAC system and can include installing continuous environmental management systems, replacing or retrofitting individual components of a system (boiler, furnace, heat pump, air-side economizers, etc.), equipment tune-ups, and scheduling adjustments.

For this analysis, the following are considered:

- Boiler replacements
- Chiller replacements
- Boiler upgrades/controls
- Furnace replacement
- VFDs/motors
- Heater/thermostat relocation
- Programmable thermostats
- Chiller optimization
- Retro-commissioning

Table 18: Estimated Saving by Building – HVAC Improvements

<i>Building</i>	<i>kWh saved</i>	<i>therms saved</i>	<i>Total Savings (\$)</i>	<i>Total Cost (\$)</i>	<i>Simple Payback (years)</i>
Total	250,200	65,500	\$75,400	\$2,560,700	34
Fairchild	3,200	2,700	\$2,600	\$251,200	98
Station #3	2,300	1,300	\$1,300	\$40,200	31
Station #4	1,100	500	\$500	\$24,800	47
Station #5	1,600	1,900	\$1,700	\$40,300	24
Station #6	1,100	700	\$700	\$28,500	43
Station #7	1,100	500	\$500	\$30,100	59
Station #8	1,300	300	\$400	\$24,100	56
Station #11	1,000	800	\$700	\$26,900	38
Monroe Street	1,500	300	\$500	\$11,000	22
Metro Maintenance	103,400	19,600	\$23,400	\$140,000	6
Olbrich Gardens	44,500	11,000	\$13,100	\$228,300	18
Warner Park Community	9,700	3,000	\$3,700	\$149,800	41
East District Police	6,300	500	\$1,000	\$35,100	36
West District Police	14,200	800	\$1,400	\$58,100	40
South District Police	6,700	700	\$1,300	\$27,000	22
North District Police	5,300	300	\$800	\$19,700	24
Police Training Facility	10,600	1,300	\$2,600	\$94,000	36
East Streets Maintenance	10,700	9,400	\$8,200	\$716,300	88
Transfer Station	4,800	3,000	\$3,000	\$69,100	23
West Streets Maintenance	7,800	4,900	\$4,700	\$364,400	78
Traffic Operations	12,000	2,000	\$3,300	\$181,800	56

Controls

In addition to HVAC system upgrades, energy savings can be achieved by a number of control strategies and technologies applied in a systematic way to a building or collection of buildings. Controls can improve operations from 5 to 15 percent. Cost and payback can vary depending on types of strategies used and whether or not new technologies must be installed.

For this analysis, the following control strategies are considered:

- Operational standards
- Building automation system integration, training, and utility data monitoring
- Automated demand response
- Direct digital control upgrades
- Lighting controls

Table 19: Estimated Saving by Building - Controls

<i>Building</i>	<i>kWh saved</i>	<i>therms saved</i>	<i>Total Savings (\$)</i>	<i>Total Cost (\$)</i>	<i>Simple Payback (years)</i>
Total	430,200	33,600	\$73,200	\$923,200	13
Station #3	3,900	400	\$900	\$8,000	9
Station #4	3,500	400	\$700	\$9,800	13
Station #5	2,800	700	\$900	\$8,000	9
Station #6	3,600	500	\$800	\$11,300	14
Station #7	1,800	200	\$300	\$6,000	17
Station #8	2,200	100	\$400	\$4,800	13
Alicia Ashman	7,600	300	\$1,200	\$11,200	10
Monroe Street	1,600	100	\$300	\$2,200	6
Sequoia Branch	9,600	400	\$1,400	\$9,500	7
Metro Maintenance	77,200	10,800	\$14,800	\$134,100	9
Monona Terrace	93,100	300	\$9,500	\$143,900	15
Olbrich Gardens	31,000	4,900	\$7,100	\$45,200	6
Warner Park Community	16,300	1,100	\$3,200	\$29,600	9
Parks Maintenance	7,600	1,000	\$1,800	\$20,600	11
Warner Park Shelter Maint.	600	200	\$1,600	\$16,600	11
East District Police	4,200	200	\$500	\$7,000	13
West District Police	4,800	100	\$400	\$5,700	15
South District Police	4,500	200	\$700	\$5,300	8
North District Police	3,500	100	\$500	\$3,900	8
Police Training Facility	13,000	900	\$2,700	\$37,200	14
East Streets Maintenance	18,000	3,400	\$4,600	\$141,800	31
Transfer Station	8,100	1,100	\$1,700	\$13,700	8
West Streets Maintenance	13,100	1,700	\$2,900	\$72,100	25
Capitol Square North	13,000	0	\$1,300	\$23,100	18
Government East	8,600	100	\$900	\$14,700	17
Overture Center	7,400	100	\$800	\$14,700	19
State Street Capitol	18,900	300	\$1,900	\$24,400	13
State Street Frances	7,800	100	\$800	\$12,000	14
State Street Lake	5,500	100	\$600	\$13,400	21
Traffic Operations	7,400	700	\$1,600	\$5,400	3
John B. Heim Administration	12,100	500	\$1,700	\$11,900	7
Paterson Maintenance	9,100	1,000	\$1,900	\$20,900	11
Paterson Vehicle Storage	6,200	1,000	\$1,800	\$24,700	14
Pump Stations	2,600	600	\$1,000	\$10,500	11

Plug Load Management

Electricity use associated with plug loads is increasing, especially in commercial buildings. Plug load includes anything beyond HVAC and process equipment that uses electricity, such as computers, office equipment, space heaters, chargers, etc. Plug load can be as much as 25 percent of a building's electricity use. Making sure that devices are not drawing power unnecessarily is the key to reducing plug load, both during occupied and unoccupied times. There are a number of ways to address plug load, including policies that require sleep settings and shut-down protocols; however, some of the simplest and easiest to implement strategies include purchasing smart strips that reflect motion or occupancy and shut power down to electronic equipment after a set period of inactivity or overnight and weekends. Estimated savings for these devices alone is estimated in the table below.

Table 20: Estimated Saving by Building – Plug Load

<i>Building</i>	<i>kWh saved</i>	<i>Total Savings (\$)</i>	<i>Total Cost (\$)</i>	<i>Simple Payback (years)</i>
Total	264,100	\$31,500	\$308,800	10
Engineering Services Building	9,700	\$1,200	\$14,100	12
Fairchild	1,700	\$300	\$17,300	64
Station #2	2,700	\$400	\$2,100	5
Station #3	2,900	\$400	\$2,800	7
Station #4	2,700	\$400	\$3,400	10
Station #5	2,100	\$300	\$2,800	9
Station #6	2,700	\$300	\$3,900	12
Station #7	2,800	\$300	\$4,100	13
Station #8	3,300	\$400	\$3,300	8
Station #11	2,600	\$300	\$3,700	12
Station #12	7,700	\$500	\$4,100	8
Station #13	1,100	\$200	\$4,500	28
Alicia Ashman	5,700	\$700	\$3,900	6
Central Library	46,800	\$6,200	\$39,300	6
Goodman South	5,800	\$800	\$4,000	5
Monroe Street	1,200	\$200	\$800	4
Sequoia Branch	14,400	\$1,700	\$6,600	4
Metro Maintenance	30,700	\$2,900	\$46,600	16
Monona Terrace	29,000	\$2,900	\$50,000	17
Goodman Pool	2,100	\$300	\$1,000	4
Olbrich Gardens	6,200	\$700	\$7,800	11
Warner Park Community	6,500	\$900	\$10,300	11
Parks Maintenance	6,100	\$800	\$14,300	18
Warner Park Shelter Maint.	200	\$500	\$5,800	12
East District Police	7,100	\$700	\$4,800	7

<i>Building</i>	<i>kWh saved</i>	<i>Total Savings (\$)</i>	<i>Total Cost (\$)</i>	<i>Simple Payback (years)</i>
West District Police	8,000	\$500	\$4,000	9
South District Police	7,600	\$800	\$3,700	4
North District Police	6,000	\$700	\$2,700	4
Police Training Facility	11,500	\$1,700	\$12,900	8
John B. Heim Administration	21,200	\$2,600	\$8,300	3
Paterson Maintenance	3,600	\$600	\$7,300	12
Paterson Vehicle Storage	2,400	\$300	\$8,600	30

Envelope Improvements

Building envelope includes walls, windows, doors, roofs, and floors and if maintained properly keeps more conditioned air in and hot or cold air out, reducing the load on the HVAC systems and the energy used by those systems. If a building's envelope is to be improved, these upgrades should proceed significant investment in new high efficiency HVAC equipment. An improved envelope generally means greater occupant comfort as well. Typical envelope opportunities include improving air and water barrier systems, sealing air leakage, enhancing insulation systems, and upgrading windows and doors.

The Department of Energy estimates that a building's envelope can affect between 25 and 40 percent of building energy use and envelope improvements can result in energy savings of as much as 20 to 30 percent of total building energy costs.

Typical envelope improvements include the following:

- Sealing air leaks
- Insulating or adding more insulation
- Upgrading inefficient windows and doors

Table 21: Estimated Saving by Building – Envelope Improvements

<i>Building</i>	<i>kWh saved</i>	<i>therms saved</i>	<i>Total Savings (\$)</i>	<i>Total Cost (\$)</i>	<i>Simple Payback (years)</i>
Total	133,900	32,700	\$38,900	\$764,900	20
Engineering Services Building	7,400	900	\$1,600	\$42,700	26
Fairchild	1,300	1,100	\$1,100	\$52,300	49
Station #2	900	400	\$400	\$6,200	15
Station #3	500	300	\$300	\$4,200	16
Station #4	400	200	\$200	\$5,200	23
Station #5	300	400	\$300	\$4,200	12
Station #6	400	300	\$300	\$5,900	22

<i>Building</i>	<i>kWh saved</i>	<i>therms saved</i>	<i>Total Savings (\$)</i>	<i>Total Cost (\$)</i>	<i>Simple Payback (years)</i>
Station #7	500	200	\$200	\$6,300	30
Station #8	500	100	\$200	\$5,000	28
Station #11	400	300	\$300	\$5,600	19
Alicia Ashman	1,500	200	\$300	\$5,900	19
Monroe Street	600	100	\$200	\$2,300	11
Metro Maintenance	19,100	12,700	\$10,600	\$141,100	13
Monona Terrace	63,000	300	\$6,500	\$151,500	23
Olbrich Gardens	7,700	5,700	\$5,000	\$47,600	10
Warner Park Community	2,000	600	\$800	\$15,600	20
Parks Maintenance	1,900	1,200	\$1,200	\$21,700	18
Warner Park Shelter Maint.	100	300	\$800	\$17,500	23
East District Police	2,600	200	\$400	\$7,300	18
West District Police	3,000	200	\$300	\$6,100	20
South District Police	2,800	300	\$500	\$5,600	11
North District Police	2,200	100	\$300	\$4,100	12
Police Training Facility	4,400	500	\$1,100	\$19,600	18
East Streets Maintenance	2,200	2,000	\$1,700	\$74,600	44
Transfer Station	2,000	1,300	\$1,200	\$14,400	12
West Streets Maintenance	1,600	1,000	\$1,000	\$38,000	39
West Streets Storage	200	200	\$200	\$11,500	52
Traffic Operations	2,500	400	\$700	\$18,900	28
Paterson Maintenance	1,100	600	\$600	\$11,000	18
Paterson Vehicle Storage	800	600	\$600	\$13,000	23

Water Distribution Upgrades (Process)

Within a water system, energy is used for raw water extraction and conveyance, treatment, distribution, and storage. Of those functions, 80 percent of the energy consumption typically is used for pumping and distributing water, while the remaining 20 percent is used for treatment (Goldstein and Smith 2002). There are several opportunities related to the water system that make sense for the City, including optimization and controls, infrastructure upgrades, and end user conservation.

System Optimization/Controls

The existing SCADA controls system offers the opportunity to optimize the City's water distribution system with relatively low cost improvements to coordinate zones and optimize system pressures and crossover operations. Costs savings have been estimated based on a projected 9 percent reduction in electricity for the water distribution system. A payback of about 3 years is anticipated based on

relatively low cost items, such as enhancements to the existing SCADA platform, programming updates, and related control system hardware (e.g., sensors).

Infrastructure Upgrades

Infrastructure upgrades necessarily include larger capital improvement projects – opportunities that have a greater upfront cost than system optimization efforts. For budgetary pricing efforts, these infrastructure upgrades are defined according to three types of capital improvement projects:

1. Variable speed motor drive installations
2. Premium efficiency motor replacements
3. Distribution valving modifications

Utility cost savings for these opportunities were determined using engineering calculations for each of the three project types that projected a total count of the three project types for the entire water distribution system.

End User Reduction Program

Finally, there is an opportunity to realize energy savings by implementing water conservation programs throughout the City. Conserving water will reduce the embedded energy costs associated with water supply and distribution operations – Madison’s water supply has an energy intensity of 1,800 kWh/million gallons. Taking advantage of the smart water meter system in the City and the Cool Choices residential competition that will be taking place in fall 2015, the costs and savings were estimated for an assumed 1 percent reduction in water consumption community-wide. To achieve this savings, assumed implementation costs would include one full time employee to manage the water conservation program plus additional program costs to provide incentives and rebates to water utility customers for installing water conserving fixtures and equipment.

Total estimated savings, cost, and payback for this category are provided in Table 20. The cost values, and therefore paybacks, will be revised once additional information becomes available over the next few weeks.

Table 22: Estimated Saving – Water Distribution Upgrades

<i>Project</i>	<i>kWh saved</i>	<i>Total Savings (\$)</i>	<i>Total Cost (\$)</i>	<i>Simple Payback (years)</i>
Total	3,532,100	\$326,900	\$1,361,000	4
Optimization	1,478,300	\$173,100	\$519,100	3
Infrastructure	1,889,600	\$134,200	\$559,400	4
Reduction	164,300	\$19,700	\$282,500	14

Appendix A – Estimated Savings, Cost, and Payback by Building

Table A1: Comprehensive Building and Measures List

Building	Cumulative Summary				Measures				
	Savings (\$)	Cost (\$)	Savings (kBtu)	Payback (yrs)	Interior Lighting	HVAC	Controls	Plug Load	Envelope
Engineering									
Engineering Services Building	\$2,900	\$56,800	148,000	20	No	No	No	Yes	Yes
Fairchild	\$3,900	\$320,800	407,000	82	No	Yes	No	Yes	Yes
Engineering Sub-total	\$6,800	\$377,600	555,000	56					
Fire									
Station #2	\$800	\$8,300	48,000	10	No	No	No	Yes	Yes
Station #3	\$2,800	\$55,100	229,000	20	No	Yes	Yes	Yes	Yes
Station #4	\$1,900	\$43,200	132,000	23	No	Yes	Yes	Yes	Yes
Station #5	\$3,200	\$55,300	321,000	17	No	Yes	Yes	Yes	Yes
Station #6	\$2,100	\$49,600	169,000	24	No	Yes	Yes	Yes	Yes
Station #7	\$1,400	\$46,500	108,000	33	No	Yes	Yes	Yes	Yes
Station #8	\$1,400	\$37,300	84,000	27	No	Yes	Yes	Yes	Yes
Station #11	\$2,000	\$42,900	143,000	21	Yes	Yes	No	Yes	Yes
Station #12	\$1,800	\$11,600	88,000	6	Yes	No	No	Yes	No
Station #13	\$200	\$4,500	4,000	23	No	No	No	Yes	No
Fire Sub-total	\$17,600	\$354,300	1,326,000	20					
Library									
Alicia Ashman	\$2,200	\$21,100	96,000	10	No	No	Yes	Yes	Yes

Building	Cumulative Summary				Measures				
	Savings (\$)	Cost (\$)	Savings (kBtu)	Payback (yrs)	Interior Lighting	HVAC	Controls	Plug Load	Envelope
Central Library	\$6,200	\$39,300	160,000	6	No	No	No	Yes	No
Goodman South	\$800	\$4,000	20,000	5	No	No	No	Yes	No
Monroe Street	\$1,600	\$17,700	85,000	11	Yes	Yes	Yes	Yes	Yes
Sequoia Branch	\$3,000	\$16,100	118,000	5	No	No	Yes	Yes	No
Library Sub-total	\$13,800	\$98,200	361,000	7					
Metro									
Metro Maintenance	\$77,100	\$541,800	6,000,000	7	Yes	Yes	Yes	Yes	Yes
Monona Terrace	\$18,900	\$345,400	687,000	18	No	No	Yes	Yes	Yes
Parks									
Goodman Pool	\$300	\$1,000	7,000	3	No	No	No	Yes	No
Olbrich Gardens	\$25,900	\$328,800	2,469,000	13	No	Yes	Yes	Yes	Yes
Warner Park Community	\$12,600	\$224,000	684,000	18	Yes	Yes	Yes	Yes	Yes
Parks Maintenance	\$7,300	\$82,500	371,000	11	Yes	No	Yes	Yes	Yes
Warner Park Shelter Maint.	\$6,900	\$60,900	63,000	9	Yes	No	Yes	Yes	Yes
Parks Sub-total	\$53,000	\$697,200	3,594,000	13					
Police									
East District Police	\$3,400	\$63,000	197,000	19	Yes	Yes	Yes	Yes	Yes
West District Police	\$3,200	\$81,100	245,000	25	Yes	Yes	Yes	Yes	Yes
South District Police	\$4,300	\$48,400	224,000	11	Yes	Yes	Yes	Yes	Yes
North District Police	\$3,100	\$35,300	135,000	11	Yes	Yes	Yes	Yes	Yes
Police Training Facility	\$9,900	\$187,300	457,000	19	Yes	Yes	Yes	Yes	Yes
Police Sub-total	\$23,900	\$415,100	1,258,000	17					
Senior Center	\$0	\$0	0	0	No	No	No	No	No
Streets									

<i>Building</i>	<i>Cumulative Summary</i>				<i>Measures</i>				
	Savings (\$)	Cost (\$)	Savings (kBtu)	Payback (yrs)	Interior Lighting	HVAC	Controls	Plug Load	Envelope
East Streets Maintenance	\$14,500	\$932,700	1,579,000	64	No	Yes	Yes	No	Yes
Transfer Station	\$5,900	\$97,200	590,000	16	No	Yes	Yes	No	Yes
West Streets Maintenance	\$8,600	\$474,500	839,000	55	No	Yes	Yes	No	Yes
West Streets Storage	\$200	\$11,500	25,000	58	No	No	No	No	Yes
Streets Sub-total	\$29,200	\$1,515,900	3,033,000	52					
Traffic Engineering/ Parking									
Capitol Square North	\$25,800	\$184,100	925,000	7	Yes	No	Yes	No	No
Government East	\$16,900	\$117,300	612,000	7	Yes	No	Yes	No	No
Overture Center	\$15,200	\$117,000	530,000	8	Yes	No	Yes	No	No
State Street Capitol	\$36,200	\$194,400	1,366,000	5	Yes	No	Yes	No	No
State Street Frances	\$15,400	\$95,400	562,000	6	Yes	No	Yes	No	No
State Street Lake	\$11,300	\$106,600	402,000	9	Yes	No	Yes	No	No
Traffic Operations	\$17,400	\$224,900	668,000	13	Yes	Yes	Yes	No	Yes
Traffic Engineering/ Parking Sub-total	\$138,200	\$1,039,700	4,397,000	8					
Water Utility									
John B. Heim Administration	\$4,300	\$20,200	164,000	5	No	Yes	Yes	Yes	No
Paterson Maintenance	\$7,000	\$65,600	313,000	9	Yes	No	Yes	Yes	Yes
Paterson Vehicle Storage	\$6,400	\$77,600	260,000	12	Yes	No	Yes	Yes	Yes
Pump Stations	\$2,300	\$23,700	111,000	10	Yes	0	Yes	No	No

<i>Building</i>	<i>Cumulative Summary</i>				<i>Measures</i>				
	Savings (\$)	Cost (\$)	Savings (kBtu)	Payback (yrs)	Interior Lighting	HVAC	Controls	Plug Load	Envelope
Water Utility Sub-total	\$20,000	\$187,100	848,000	9					
Total (Buildings)	\$398,500	\$5,572,300	22,845,000	14					
Water Distribution	\$326,900	\$1,361,000	12,052,000	4					
Street Lights	\$342,500	\$5,488,200	16,461,000	16					
Grand Total	\$1,067,900	\$12,421,500	51,358,000	12					

Appendix B – Detailed Building Information

Table B1: Buildings Not Included in Analysis

<i>Building</i>	<i>Rationale for Excluding from Analysis</i>
Madison Municipal Building	Currently in pre-design phase of major renovation.
Fire Maintenance	Slated for demolition.
Fire Station #1	Currently being remodeled.
Fire Station #9	Needs to be completely remodeled or demolished.
Fire Station #10	Needs to be completely remodeled or demolished.
Fleet Service Building	Slated for sale or demolition.
Police Storage Facility	Slated for sale or demolition.
Senior Center	Not included based on staff feedback from Engineering that not a good upgrade candidate.
East Health Hawthorne	Leased and will be vacated in 5 years.
Lakeview Library	Leased.
Meadowridge Library	Leased.
Pinney Library	Leased.
Hawthorne Library	Leased.

Table B2: Comprehensive Building List

<i>Building</i>	<i>Square Footage</i>
Engineering	
Engineering Services Building	42,742
Fairchild	53,329
Madison Municipal Building	74,154
Fire	
Fire Maintenance	
Station #1	24,000
Station #2	6,225
Station #3	8,372
Station #4	10,328
Station #5	8,399
Station #6	11,874
Station #7	12,539
Station #8	10,054
Station #9	5,564
Station #10	5,959
Station #11	11,204
Station #12	12,500
Station #13	13,724
Fleet Services	
Fleet Services	52,840
Health	
East Health Hawthorne	11,500
Library	
Alicia Ashman	11,829
Central Library	119,200
Goodman South	12,010
Lakeview	9,335
Meadowridge	17,565
Monroe Street	2,300
Pinney	11,200
Hawthorne	
Sequoia Branch	20,000
Metro	
Metro Maintenance	282,250
Monona Terrace	303,000

<i>Building</i>	<i>Square Footage</i>
Parks	
Goodman Pool	6,117
Olbrich Gardens	47,553
Warner Park Community	31,200
Parks Maintenance	43,300
Warner Park Shelter Maint.	35,000
Police	
East District Police	16,460
West District Police	12,100
South District Police	11,237
North District Police	8,195
Police Storage Facility	10,000
Police Training Facility	39,186
Traffic Engineering/Parking	
Capitol Square North	234,500
Government East	206,700
Overture Center	206,200
Parking General	
State Street Capitol	342,720
State Street Frances	168,139
State Street Lake	187,850
Traffic Operations	37,877
Water Utility	
Utility Building	
John B. Heim Administration	25,148
Paterson Maintenance	22,000
Paterson Vehicle Storage	26,038
Pump Stations	

Madison Municipal Operations Energy Analysis and Scenario Comparison

A high-level energy and cost analysis was conducted to quantify energy management strategies identified to help the City of Madison achieve its Georgetown University Energy Prize (GUEP) reduction goal for municipal buildings from January 2015 through December 2016. The analysis includes all City buildings as well as street lights and water treatment and distribution facilities and applies a package of recommendations developed using utility data and energy use indexes, information gathered from department staff, and limited site visits conducted in March and June 2015. With this framework as a baseline, the filters of maximum energy savings, realistic implementation within the GUEP challenge timeframe, and package payback period were applied to support decision making. Three different target payback scenarios were run: 5, 7, and 10 years.

During the program plan development phase of the GUEP, a target reduction of 37 million kBtu by the end of 2016 was identified. Table 1 presents the three payback scenarios as they compare to this goal. In addition to the scenarios presented here, other activities are also currently underway as part of GUEP that will affect reduction outcomes and offer persistence beyond the GUEP challenge, including 1) the Facility and Energy Management Leadership Academy providing training to City facility staff about best practices and opportunities for efficiency improvements in City facilities, and 2) the City's existing operations and maintenance budgets for equipment upgrades.

Table 1. Scenarios and Estimated Savings Compared to GUEP Reduction Goal

<i>GUEP Reduction Goal</i>	<i>37,000,000 kBtu</i>		
<i>Scenario</i>	<i>kBtu saved</i>	<i>Simple Payback (years)</i>	<i>Savings as % of Goal</i>
5-year Payback	18,599,000	5	50%
7-year Payback	28,129,000	7	76%
10-year Payback	44,590,000	10	121%

The 5-year scenario (Table 2) focuses on interior lighting upgrades (linear fluorescent and HID replacements) and water distribution upgrades, including system optimization and controls, infrastructure upgrades, and an end user reduction program.

Table 2. 5-year Scenario: Estimated Cost and Savings by Recommendation

<i>Category</i>	<i>kWh saved</i>	<i>therms saved</i>	<i>kBtu saved</i>	<i>Total Savings (\$)</i>	<i>Total Cost (\$)</i>	<i>Simple Payback (years)</i>
Interior Lighting	1,755,200	0	5,989,000	\$179,800	\$1,014,500	6
Water Distribution	3,696,391	0	12,612,000	\$346,600	\$1,543,500	4
Total Package	5,451,591	0	18,601,000	\$526,400	\$2,558,000	5

As a mid-range scenario, the package that meets a 7-year payback threshold (Table 3) includes the interior lighting and water measures as well as HVAC improvements, controls optimization, and plug load strategies for select buildings.

Table 3. 7-year Scenario: Estimated Cost and Savings by Recommendation

<i>Category</i>	<i>kWh saved</i>	<i>therms saved</i>	<i>kBtu saved</i>	<i>Total Savings (\$)</i>	<i>Total Cost (\$)</i>	<i>Simple Payback (years)</i>
Interior Lighting	1,755,200	0	5,989,000	\$179,800	\$1,014,500	6
HVAC	162,300	32,500	3,804,000	\$39,800	\$752,900	19
Controls	430,200	33,600	4,828,000	\$73,200	\$923,200	13
Plug Load	264,100	0	901,000	\$31,500	\$308,800	10
Water Distribution	3,696,391	0	12,612,000	\$346,600	\$1,543,500	4
Total Package	6,308,191	66,100	28,134,000	\$670,900	\$4,542,900	7

The 10-year scenario is the only modeled option that enables the City to achieve its GUEP reduction goal entirely. This scenario includes all the measure from the 7-year scenario and incorporates expedited implementation of the City's existing plan to upgrade all of its street lights with LEDs.

Table 4. 10-year Scenario: Estimated Cost and Savings by Recommendation

<i>Category</i>	<i>kWh saved</i>	<i>therms saved</i>	<i>kBtu saved</i>	<i>Total Savings (\$)</i>	<i>Total Cost (\$)</i>	<i>Simple Payback (years)</i>
Interior Lighting	1,755,200	0	5,989,000	\$179,800	\$1,014,500	6
HVAC	162,300	32,500	3,804,000	\$39,800	\$752,900	19
Controls	430,200	33,600	4,828,000	\$73,200	\$923,200	13
Plug Load	264,100	0	901,000	\$31,500	\$308,800	10
Water Distribution	3,696,391	0	12,612,000	\$346,600	\$1,543,500	4
Street Lights	4,824,318	0	16,461,000	\$342,500	\$5,488,200	16
Total Package	11,132,509	66,100	44,595,000	\$1,013,400	\$10,031,100	10

The framework for the analysis provides a snapshot of City facilities by department, acknowledges efficiency efforts already underway, presents a utility analysis as a backdrop, and provides a first order quantification of applicable recommendations. The packages identified represent good energy management by combining both implementation scope and applicable buildings to balance shorter and longer term projects, helping to achieve an overall payback this is palatable and within an expected range.

Appendix - Scenario Summaries by Department

The 5-year scenario includes only those measure packages that have paybacks within 10 years, with some departments having much lower payback, which for an overall payback of 5 years.

Table A1. 5-year Scenario

Department	Cumulative Summary			
	Savings (\$)	Cost (\$)	Savings (kBTU)	Payback (yrs)
Engineering	\$0	\$0	0	0
Fire	\$2,000	\$14,200	81,000	7
Library	\$400	\$1,400	8,000	4
Metro Maintenance	\$25,400	\$80,000	911,000	3
Monona Terrace	\$0	\$0	0	0
Parks	\$11,700	\$65,700	196,000	6
Police	\$5,000	\$51,200	163,000	10
Senior Center	\$0	\$0	0	0
Streets	\$0	\$0	0	0
Traffic Engineering/ Parking	\$126,300	\$731,200	4,405,000	6
Water Utility	\$9,000	\$70,800	223,000	8
Total (Buildings)	\$179,800	\$1,014,500	5,987,000	6
Water Distribution	\$346,600	\$1,543,500	12,612,000	4
Grand Total	\$526,400	\$2,558,000	18,599,000	5

The 7-year scenario bundles in a few more measure packages, and while the payback by department is greater than 7 years, the overall payback is within this timeframe largely because of the water distribution opportunities. By combining longer-term paybacks with measure packages that have shorter paybacks, the City will be able to get closer to its reduction goal.

Table A2. 7-year Scenario

Department	Cumulative Summary			
	Savings (\$)	Cost (\$)	Savings (kBTU)	Payback (yrs)
Engineering	\$1,500	\$31,400	39,000	21
Fire	\$15,400	\$311,600	1,097,000	20
Library	\$13,300	\$89,900	441,000	7
Metro Maintenance	\$66,500	\$484,600	4,669,000	7
Monona Terrace	\$12,400	\$193,900	443,000	16
Parks	\$28,600	\$216,900	1,181,000	8

<i>Department</i>	<i>Cumulative Summary</i>			
	Savings (\$)	Cost (\$)	Savings (kBTU)	Payback (yrs)
Police	\$21,200	\$372,500	1,074,000	18
Senior Center	\$0	\$0	0	0
Streets	\$12,200	\$296,700	1,072,000	24
Traffic Engineering/ Parking	\$134,200	\$839,000	4,775,000	6
Water Utility	\$18,800	\$163,100	726,000	9
Total (Buildings)	\$324,100	\$2,999,600	15,517,000	9
Water Distribution	\$346,600	\$1,543,500	12,612,000	4
Grand Total	\$670,700	\$4,543,100	28,129,000	7

The 10-year scenario includes the 7-year bundle as well as street light upgrades, which are already underway but could be expedited to help the City achieve its reduction goal entirely. The departments with longer-term paybacks are again offset to some degree by the water distribution opportunities and upgrades to Fire, Library, and Traffic Engineering/Parking.

Table A3. 10-year Scenario

<i>Department</i>	<i>Cumulative Summary</i>			
	Savings (\$)	Cost (\$)	Savings (kBTU)	Payback (yrs)
Engineering	\$1,500	\$31,400	39,000	21
Fire	\$15,400	\$311,600	1,097,000	20
Library	\$13,300	\$89,900	441,000	7
Metro Maintenance	\$66,500	\$484,600	4,669,000	7
Monona Terrace	\$12,400	\$193,900	443,000	16
Parks	\$28,600	\$216,900	1,181,000	8
Police	\$21,200	\$372,500	1,074,000	18
Senior Center	\$0	\$0	0	0
Streets	\$12,200	\$296,700	1,072,000	24
Traffic Engineering/ Parking	\$134,200	\$839,000	4,775,000	6
Water Utility	\$18,800	\$163,100	726,000	9
Total (Buildings)	\$324,100	\$2,999,600	15,517,000	9
Water Distribution	\$346,600	\$1,543,500	12,612,000	4
Street Lights	\$342,500	\$5,488,200	16,461,000	16
Grand Total	\$1,013,200	\$10,031,300	44,590,000	10

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