

## CITY OF MADISON POSITION DESCRIPTION

1. Name of Employee (or "vacant"):

Work Phone:

2. Class Title (i.e. payroll title):  
Vehicle & Charging Integration Engineer

3. Working Title (if any):

4. Name & Class of First-Line Supervisor:

Chief Maintenance Officer

Work Phone:

5. Department, Division & Section:

Metro Transit, Maintenance

6. Work Address:

7. Hours/Week:

Start time:                      End time:

8. Date of hire in this position:

9. From approximately what date has employee performed the work currently assigned:

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10. Position Purpose: (How this position fits into the overall mission, vision, and goals of your agency and work unit.)

This position will support the transition to an electric bus fleet and other new bus technologies to ensure success.

11. Position Summary:

The **Vehicle & Charging Integration Engineer** is responsible to manage the development, design, and implementation of transit vehicle projects and associated charging systems. This position collaborates with Metro staff and vendors to ensure all necessary projects meet Metro Transit's requirements for schedule, cost, quality, performance and safety related to project implementation.

This position includes a combination of project management and leadership responsibilities for short-term and long-term projects as well as day to day operational technical support. This position will monitor and direct activities of consultants, contractors, and manufacturers while managing activities of their own

projects, planning and design functions. This position will also provide real time data and reports as requested by Metro Transit Management.

12. Functions and Worker Activities: (Do NOT include duties done on an "Out-of-Class" basis.)
- A. Manage the planning, procurement, and implementation of various advanced bus programs (e.g., Battery Electric Buses, Charging Systems, on-bus technology and safety systems) for Metro Transit: (50%)
    - 1. Research new technologies, evaluate impact and make recommendations. Analyze existing propulsion systems, evaluate impact and make recommendations.
    - 2. Research supporting needs for Fleet Technology, evaluate impact and make recommendations. Research Fleet Technology integration and recommendations.
    - 3. Take part in preproduction meetings to verify that the vendors understand the specification and agrees to follow them.
    - 4. Create or help to create milestones for vendors to accomplish to ensure that projects stay on track.
    - 5. Ensure that buses and systems are delivered as specified. Ensure that implementation processes are followed and adjusted to better support the mission.
    - 6. Stays current with Electric Vehicle market trends and maintenance needs. Helps develop activities and strategies, including approaches to changing out fleet.
    - 7. Lead the design, development, testing, and deployment of EV charging systems, including chargers, switchboards, and other related infrastructure.
    - 8. Manage the interface with utilities, coordinating energy supply requirements, and ensure adherence to all regulatory standards.
    - 9. Oversee the development of electrical schematics, diagrams, and layouts related to charging infrastructure, promoting seamless integration with mechanical and software systems.
  - B. Evaluate and direct Metro Transit staff, project consultants and staff from other units of government in project implementation and evaluation (20%)
    - 1. Work with vendors to ensure that Depot and On-route chargers work as designed. Work with the garages and transportation to ensure that Depot and On-route chargers are operated correctly
    - 2. Conduct failure analysis and recommend improvements. Compare energy cost by propulsion
    - 3. Collaborate with internal and external teams to execute testing, troubleshooting, commissioning, and operationalizing new Electric Vehicle equipment.
    - 4. Identify, troubleshoot, and resolve issues impacting the Electric charging network.
    - 5. Quickly, effectively, and candidly frame-up and escalate business risks/opportunities to senior leadership.
  - C. Develop and Maintain models to ensure vehicle range, energy consumption and emissions profiles meet the goals of Metro Transit: (10%)
    - 1. Provide plain language descriptions of transit-specific language so strategic plans and 'definitions of success' like performance measures are easily understood by staff and public alike
    - 2. Draft reports and public messages for website to describe strategic planning efforts, high-level descriptions of progress
    - 3. Write monthly summaries that highlight best examples of progress for internal communication.
  - D. Prepare and review/modify contract scopes of work, review proposals, recommend contract execution and administer contracts on behalf of Metro Transit. (10%)
    - 1. Provide Q/A and Q/C oversight on contracts directly managed and managed by staff:
    - 2. Evaluate contract proposals and provide feedback in regards to procurement.
    - 3. Conduct QAs to ensure that proper processes are followed. Develop technical specifications, testing programs, procedures, and standards for Metro Transit's advance bus technology project activities.

- E. Other Duties as assigned (10%)
  - 1. Develop and or deliver technical reports and presentations to internal and external audiences.
  - 2. Monitor EV performance, and leading component failure investigations to keep vehicles in a state of good repair.
  - 3. Other duties as assigned

13. Primary knowledge, skills and abilities required:

- A. Thorough knowledge of electrical engineering principles and practices, particularly as they relate to the design, construction, and maintenance of heavy duty and electric vehicles in the area(s) of specialization.
- B. Thorough knowledge of public works/transit engineering objectives, purposes, professional standards, methods and principles.
- C. Thorough knowledge of and ability to use computer software applicable to the duties of the position.
- D. Thorough knowledge of the City's processes and procedures relating to project approval and contract awarding and administration.
- E. Working knowledge of computer-assisted design processes and techniques and computer applications relative to the area(s) of responsibility.
- F. Working knowledge of budgetary principles and procedures.
- G. Ability to communicate technical issues and data to citizens, other governmental employees, and elected officials by written and verbal means.
- H. Ability to prepare technical reports and act on study conclusions.
- I. Ability to prepare and/or review construction plans and specifications and interpret plans in the field.
- J. Ability to establish and maintain effective work and public relations.
- K. Ability to communicate, both orally and in writing, including making presentations to groups. Ability to organize engineering data, prepare and review cost estimates, recommend project priorities, and present findings and recommendations.
- L. Ability to schedule transit projects and coordinate all related details.
- M. Ability to negotiate contract provisions and oversee the work of consultants.
- N. Ability to maintain adequate attendance.

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14. Special tools and equipment required:

15. Required licenses and/or registration:

Candidates must meet one of the following criteria for minimum qualifications:

- A bachelor's degree in mechanical, electrical, or other related engineering field, plus three (3) years of relevant experience
- An associate's degree in Automotive Technology or related field, plus seven (7) years of relevant experience
- No degree plus ten (10) years of relevant experience

Relevant experience includes the following:

- Vehicle design or manufacturing
- High-voltage electrical systems or charging systems
- Advanced vehicle technology systems
- Other related field

Project management experience and connections to professional associations or research institutions is preferred.

16. Physical requirements:

Must be able to stand, walk, sit, bend as a part of requirements of the job.

17. Supervision received (level and type):

General

18. Leadership Responsibilities:

- This position:  is responsible for supervisory activities (Supervisory Analysis Form attached).  
 has no leadership responsibility.  
 provides general leadership (please provide detail under Function Statement).

19. Employee Acknowledgment:

- I prepared this form and believe that it accurately describes my position.  
 I have been provided with this description of my assignment by my supervisor.  
 Other comments (see attached).

\_\_\_\_\_  
EMPLOYEE

\_\_\_\_\_  
DATE

20. Supervisor Statement:

- I have prepared this form and believe that it accurately describes this position.  
 I have reviewed this form, as prepared by the employee, and believe that it accurately describes this position.  
 I have reviewed this form, as prepared by the employee, and find that it differs from my assessment of the position. I have discussed these concerns with the employee and provided them with my written comments (which are attached).  
 I do not believe that the document should be used as the official description of this position (i.e., for purposes of official decisions).  
 Other comments (see attached).

\_\_\_\_\_  
SUPERVISOR

\_\_\_\_\_  
DATE

Instructions and additional forms are available from the Human Resources Dept., Room 261, Madison Municipal Bldg., calling 266-4615 or visiting [cityofmadison.com/employeeenet/policies-procedures/position-descriptions](http://cityofmadison.com/employeeenet/policies-procedures/position-descriptions).